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A Magazine for the Scanner Hobbyist

Volume 9, Number 7 – July 1996

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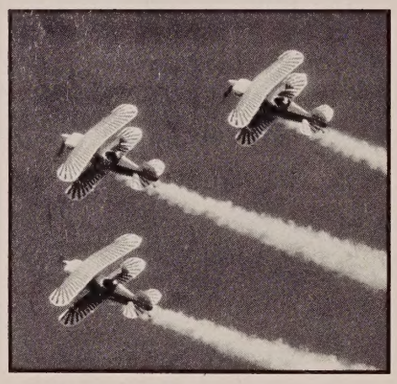

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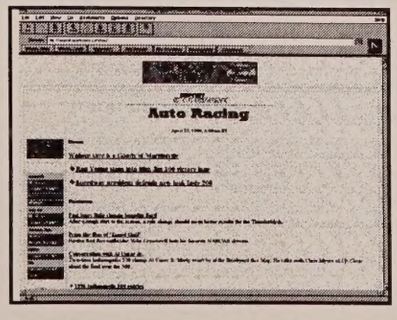

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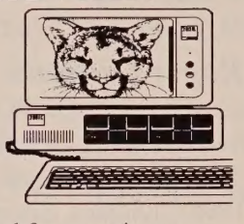

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Experimental Aircraft Association (EAA)

A pair of Weddell–Williams monoplanes from the 1920's. These and many others can be seen at the annual EAA Flyin. See page 17 for story.

Photo by Mike Steineke
Courtesy of EAA

GOVERNMENT

The United States Department Of State

by Roger Cravens

I live and work in Atlanta, Georgia. This July, Atlanta will be hosting the 1996 Olympics. Since countries that make up most of the planet will be here visiting and participating in the games, I thought the State Department would be an excellent agency to discuss this month.

The Office of the Secretary of State was originally established on July 27, 1789 as the Department of Foreign Affairs. The position of the Secretary is the first ranking member of the Cabinet, is a member of the National Security Council, and is in charge of our Foreign Service.

This cabinet-level office is responsible for advising the President in formulating and executing foreign policies. The objective is to conduct foreign relations in promoting longrange security of our country. They determine and analyze facts relating to interests that America has overseas, or other countries have within our hemisphere. This agency makes recommendations on policy and future actions and takes those actions prudent and necessary to carry out established policies.

To perform these important duties and represent our country, the State Department constantly engages in consulting with the American public, both houses of Congress, and other U.S. departments and agencies, as well as foreign governments. They also negotiate treaties and agreements with foreign governments; they represent the United States in the United Nations and in more than 50 major international organizations in which this country participates. I was extremely amazed to learn that the State Department represents this country at more than 800 international conferences annually.

I was also surprised to discover just how huge this agency actually is. Under the Office of the Secretary of State, here are a few of the positions: Ambassadors at Large; Executive Secretariat; Under Secretary for Economic and Agricultural Affairs; Under Secretary for Political Affairs; Under Secretary for Arms Control and International Security Affairs; Ambassadors to the United Nations; Under Secretary for Global Affairs; and a little office called, Office of Diplomatic Contingency Programs.

I have been working for the Government close to 20 years and I honestly have absolutely no idea what the Office of Diplomatic Contingency Programs does. Their phone number is (202) 647-6788, in case you're interested in finding out for yourself.

Also under the auspices of this massive federal agency is the Bureau for Diplomatic Security. While working on this article, I also found another interesting position: Deputy Assistant Secretary for Countermeasures and Information Security. If you know anything about Intelligence and Special Operations, this little office should make you nervous. Working for the Deputy Secretary is the Director of Domestic Operations (that's American citizens). What in the world is our State Department doing conducting special and countermeasure operations against American citizens? I believe I may have missed something here.

I also ran across another innocuous bureau: Bureau of Intelligence and Research. The intelligence office I clearly understand, but continue to wonder what kind of "research" is being conducted and into what? Who knows? This office coordinates programs of intelligence collection, research, and analysis for the Department, as well as other federal agencies.

Well! Now we know why the CIA runs offices out of our foreign offices. They also produce intelligence studies and current intelligence analysis essential to foreign policy determination and execution. Their "Office of Research," I am told, maintains liaison with cultural and educational institutions and with other federal agencies on a wide range of matters relating to foreign affairs research. What all this boils down to is they spy on other countries and provide and disseminate current intelligence to all government agencies that need the information they gather.

Interesting group of people, to be sure. Under the Bureau of Intelligence and Research are some other interesting offices, like the Office of Politico-Military Analysis and Warning, Office of Intelligence Liaison, Office of Intelligence Resources, Office of Intelligence Coordination, and a real winner and one of my favorites, the Office of Terrorism and Narcotics Analysis.

When you consider all that "intelligence"-collecting happening in Washington, it seems to me that Americans ought to be the most aware and intelligent people on the planet. We have the State Department conducting intelligence operations and research; the Central Intelligence Agency conducting international as well as domestic spying (that means they are spying on American citizens within our own country) authorized by Executive Order signed by President Bush; the National Reconnaissance Office (a joint venture between the U.S. Air Force and the National Security Agency) taking pictures of everything on the planet (including real-time surveillance); the National Security Agency listening to everything (and everyone) on the planet; Defense Intelligence Agency; Army Intelligence Agency; Office of Naval Security, and on and on and on. It seems to me that we as Americans have to be the biggest and nosiest busybodies in the world.

USSN

Department of State (PL Tone 151.4)

Repeater Output	Repeater Input	Ch	Use
163.1500	168.2250	01	Spec. Oper. & Security
163.5750			Field Offices
164.1250			Field Offices
165.6125			Field Offices
166.1000			Field Offices
166.2000			Office of the Sec. of State
166.6125			Field Offices
166.8750			Office of the Sec. of State
168.2250	163.1500		Oper. Network & Coordination
168.2250		02	Spec. Oper. & Security
168.3500			Field Offices
169.0500			General Operations
169.6250			Field Offices
169.8000			Field Offices
170.4500			Field Offices
170.5750			Field Offices
407.6000		03	Diplomatic Sec. Svc. (UN)
408.1000			Diplomatic Sec. Svc (Simplex)
408.1000	409.7000	01	Diplomatic Sec. Svc. (UN)
408.6000		04	UN Spc Security (Simplex)
409.1500			Field Offices (Executive Sec.)
409.1500			Field Office (Simplex)
409.6000		05	Diplomatic Sec. Svc. (UN)
409.6250	407.2000		Field Offices
409.6250	407.2000		Field Offices (Executive Sec.)
409.6250			Field Offices (Simplex)
409.7000	407.6000		Field Offices (Executive Sec.)
409.7000	408.1000		Field Offices
409.7000		02	Diplomatic Sec. Svc. (UN)
411.0750			Field Offices (Simplex)
411.1500	407.2000		Field Offices
411.1500			Field Offices (Simplex)
411.4250	407.2000		Field Offices (Executive Sec.)
415.9000	409.7000		Spc. Security
415.9000			Field Office (Simplex)
417.8500	407.6000		Special Diplomatic Protection
418.4500	406.3750		Field Office
418.4500			Field Office (Simplex)

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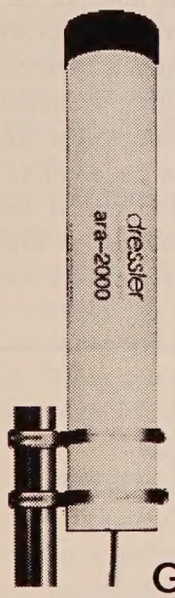

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ANTENNAS

Passive Repeater Antennas

These Antennas Receive, and Then Re–Transmit, Radio Signals.

by W. Clem Small, KR6A, CET

Take a look at Figure 1. This large object could easily be mistaken for a billboard with its advertisement temporarily missing. But the object in that figure isn't a billboard; it is a special kind of microwave antenna. These antennas receive, and then re-transmit, radio signals. Because of this they are called "repeaters." This "billboard" type of repeating antenna is essentially a large flat reflector. Signals which encounter this repeater in their path are given a 180 degree change in their polarization, and reflected back into space.

Another type of repeating-antenna system, which we will call the "receive-transmit" type, receives signals with one antenna and re-transmits those signals via another antenna (Fig. 2). The receiving antenna, and the transmitting antenna of this type of repeating antenna system can be oriented to receive and re-direct the received signals as necessary.

Actually, even a single halfwave antenna, with no feedline, with no connections to the antenna at all, can be used as a receive-transmit repeater. This repeating antenna can be useful when sited in a location, such as a hilltop, from which it can see the antennas of a transmitter and a receiver which are blocked from one another, and thus cannot see each other (no line-of-sight signal path between them), and cannot communicate between themselves. With this single antenna sited on a hilltop it can see into the valleys on either side of the hill, even though the antenna of the transmitter in one valley, and the antenna of the receiver in the other valley, cannot "see" each other. Now, from antenna theory we know that an antenna which receives a signal, but has no attached load to which the received energy can be passed, re-radiates most of the signal which it receives. And signals from the transmitter in one valley are received and re-radiated by the antenna atop the hill, and some of this energy is radiated into the other valley which formerly had no useable level of that signal.

None of the types of repeating antennas discussed in this column amplify or process the signals which they receive, and so they are known as "passive" repeaters.

One example of a passive repeater that many of us have seen occurs in the periscope antenna (Fig. 3). This antenna uses an elevated reflector (passive repeater) to re-direct its signals to or from the main antenna, which is mounted near the ground. This arrangement provides easier access to the main antenna for adjustment and maintenance than would be possible if the antenna were mounted at the higher position occupied by the reflector. The arrangement also gives less signal loss in the antenna's feedline than would occur if the main antenna were mounted at the higher position, and thus needed a longer run of feedline.

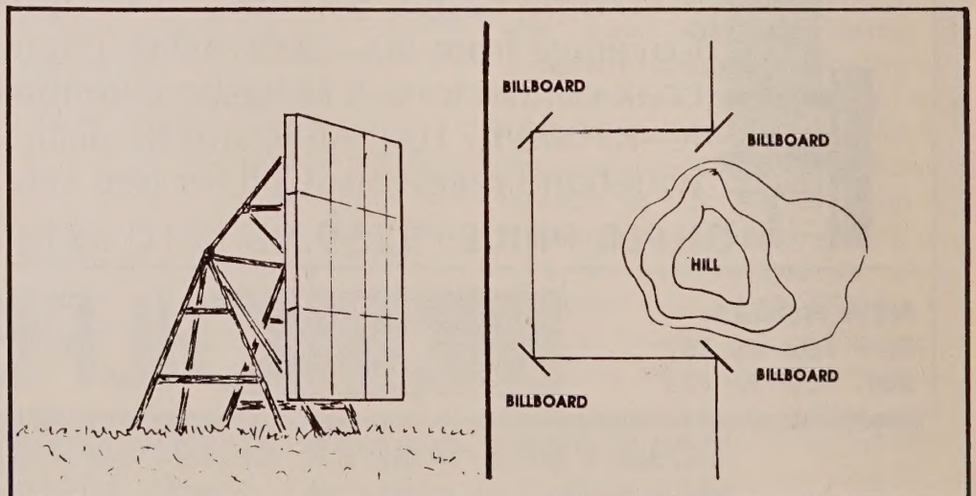

FIG. 1. Mysterious "billboards." What are they? See text for explanation. (A). Re-routing a signal path via "billboards."

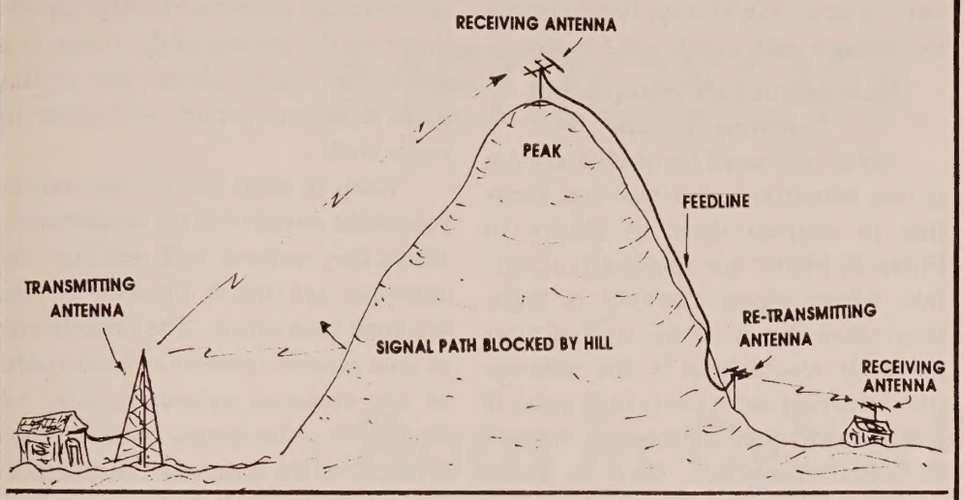

FIG. 2. A receive-transmit type passive repeating antenna system.

Often several billboard-style passive repeaters are used to advantage to support communication links in mountainous areas. Once a VHF, UHF or microwave signal leaves its transmitting antenna it travels in an almost straight line until something reflects, refracts or receives it. Passive repeaters can "bend" the signal around obstructions to that path, such mountain peaks (Fig. 1A). This sometimes allows establishing satisfactory radio communication circuits in situations where they would otherwise be impossible to obtain.

A receive-transmit type of repeating antenna, as mentioned above, can receive a signal on one antenna and then re-transmit the signal from a different antenna to a new environment (Fig. 2). Often a transmission line is used to connect the two antennas which comprise the repeater. On the other hand, sometimes the antennas are connected directly to one another's input-output terminals; in which case no transmission line is necessary. One example of the use of a receive-transmit passive repeater is the reception of signals at the top of a tall hill via one antenna, routing these signals down the hillside via a transmission line, and then re-transmitting them via a second antenna into an area from which they were originally blocked by the hill.

Passive repeaters can also be utilized to introduce signals into structures which are constructed of conductive materials that prevent good reception inside the structure. An interesting application of this kind of passive repeater occurs in the utilization of cellular telephones inside vehicles. The metal body of a vehicle can act as a shield which attenuates radio waves inside that vehicle. A small antenna system, specially designed as a passive repeater, can be placed in a window of a vehicle where the antenna is less shielded from radio waves than would be true if it were farther inside the vehicle. Signals received by this passive repeater are said to be re-transmitted from the repeater in the window to the interior of the vehicle. Supposedly these re-transmitted signals are at levels higher than would be present inside the vehicle without the presence of the passive repeater. Unfortunately, reviews which I have seen of these devices have not supported these claims.

Mother Nature is a Radio Engineer!

When you stop to think about it, Mother Nature quite fortunately provides us with some very useful passive repeaters. At times large buildings, or natural formations such as large flat-faced cliffs, function as passive repeating antennas. These natural passive repeaters may reflect signals into areas where those signals otherwise don't propagate. I've often had good VHF communications out of long, winding, steep canyons where line-of-sight or knife-edge phenomenon propagation seemed out of the question. In such cases I feel confident that my communication path was supported by the sides of the canyon acting as passive repeating antennas; bending the signal path out of the canyon by action similar to that depicted in Fig. 1A.

We can also extend the natural passive-repeater concept to the reflecting medium which supports skip propagation in shortwave (HF) communications. Long distance (DX) communication on the HF band is supported by signals "skipping" or "hopping" around the globe. This hopping is accomplished by the signal's propagating at an angle upwards from the transmitting antenna, and then "reflecting" (actually refracting) from the ionosphere back to earth at a point distant from where the signal was originally transmitted. Longer paths can be covered by the signal hopping more than once. For these multiple-hop paths the signal will, at one or more points along its path, reflect from the earth's surface or an ocean surface, as well as from the ionosphere. Thus the ionosphere, the earth's surface and the ocean's surface are all utilized as passive repeaters. It is this "sky billiards" effect that makes shortwave listening so fascinating; it is literally possible to receive-low-power signals from any distant place on earth by this method when the propagation conditions are right for it.

Could You Use a Passive Repeater System?

If you have a place where you'd like to use your handheld scanner, but it is shielded from the signals you want to hear, then a passive repeater might come in handy. For instance, let's say that you have a room in the basement where you want to utilize your handheld scanner, but the signal strength is very low there. Let's then say that you want to be free to move

around the room without the need to be tied down with an antenna feedline attached to your scanner. Then a passive repeater may be of use. For example, you might want to have your handheld scanner handy at your side when you are at your desk, at your workbench, or while reading in bed. Of course you can run the feedline from the antenna on your roof to all these locations, and put a connector socket on the feedline at each location so that you can plug into the feedline at each place. With the passive repeater, you can use your handheld with no need to deal with the feedline.

One factor to consider when planning to utilize a passive-repeater antenna is that it you won't find the signals as strong with the passive repeater as with the direct feedline connection. But, if you are interested only in scanning strong, local signals the repeater may do the job for you.

Making Your Own Repeating Antenna System

What you need for such a system is two antennas and a low-loss feedline to connect them as shown in Figure 2. Mount one antenna in a position where signal strength is high; most often this is on the roof of your home. It would help if this antenna (the receiving antenna) is high gain. If you want to receive stations from a particular direction, then a beam antenna will be useful. Otherwise a non-directional antenna is appropriate. Connect the feedline to the receiving antenna and run it to the low signal-strength area where the second antenna (the re-transmitting antenna) is to be located. A quarterwave groundplane antenna mounted upside-down on the ceiling of the room, or in the crawl space above the ceiling, gives a pattern which will cover the room well.

Keep in mind that all antennas are somewhat selective of the frequencies to which they respond well, and that some antennas are much broader in their response than others. The effectiveness of your passive-repeater antenna system, or any scanning antenna system, will depend to some degree on the responsiveness of the antennas utilized to the frequencies to be scanned.

Another factor to bear in mind is that the feedpoint impedance of the antennas utilized, and impedance of the feedline utilized, should be matched. That means that they should have approximately the same value of impedance. For scanner work both antenna feedpoint-impedance and antenna feedline-impedance are essentially standardized at a nominal 50 ohms ("nominal 50 ohms" means "somewhere near 50 ohms in value"). So if you employ commercially available scanner antennas, or home-brew antennas with 50-ohm feedpoints, 50-ohm feedline should present a satisfactory match to your antennas.

The Ubiquitous Repeating Antenna

So far we've discussed a number of passive repeating antenna systems, both man-made and natural. In closing, let me make note of the fact that our most common beam antennas have "repeating elements." In the Yagi-Uda beam antenna, and in the various quad beam antenna designs, there are elements called "directors" as well as elements called "reflectors." The function of both of these kinds of elements is to receive, and then to re-radiate, the signal to be received by the main or driven element of the antenna system. By this process such beam antennas give excellent gain and directional characteristics. It wouldn't be possible without the passive-repeating action of the beam antenna's reflector and director elements! **USSN**

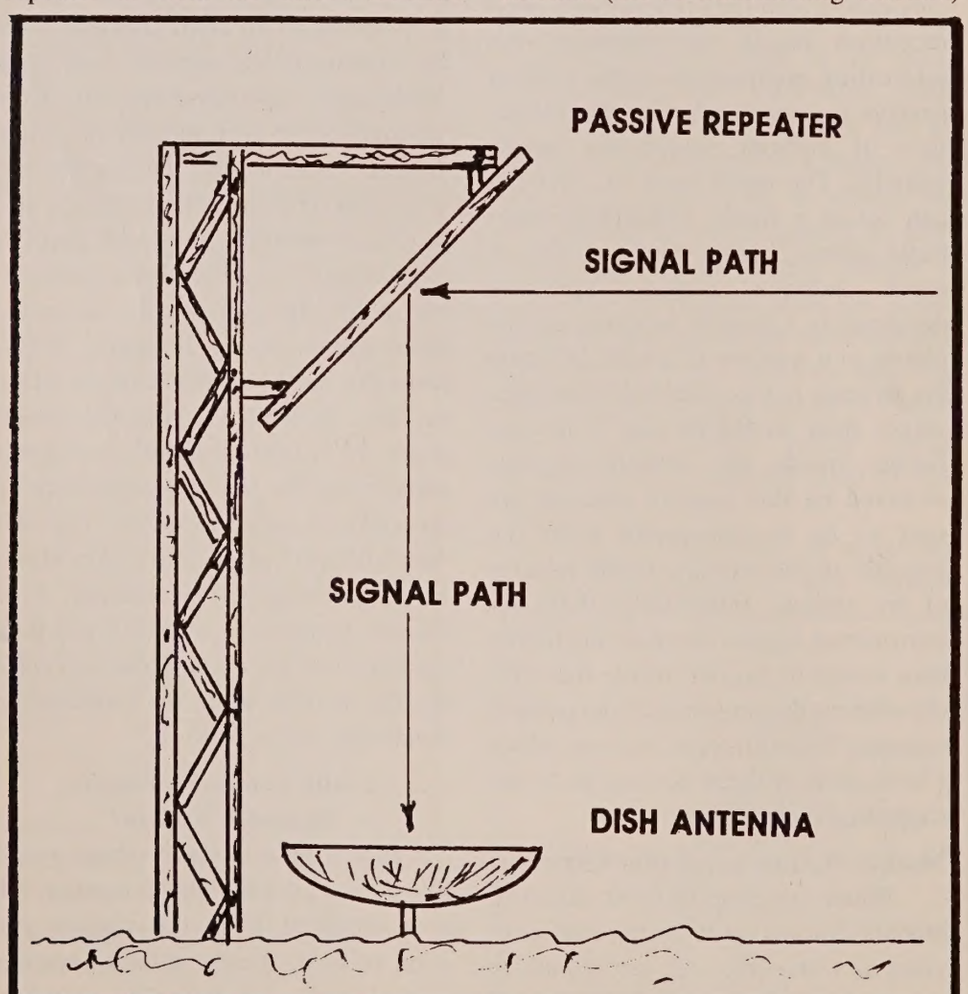

FIG. 3. A periscope antenna.

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around the room without the need to be tied down with an antenna feedline attached to your scanner. Then a passive repeater may be of use. For example, you might want to have your handheld scanner handy at your side when you are at your desk, at your workbench, or while reading in bed. Of course you can run the feedline from the antenna on your roof to all these locations, and put a connector socket on the feedline at each location so that you can plug into the feedline at each place. With the passive repeater, you can use your handheld with no need to deal with the feedline.

One factor to consider when planning to utilize a passive-repeater antenna is that it you won't find the signals as strong with the passive repeater as with the direct feedline connection. But, if you are interested only in scanning strong, local signals the repeater may do the job for you.

Making Your Own Repeating Antenna System

What you need for such a system is two antennas and a low-loss feedline to connect them as shown in Figure 2. Mount one antenna in a position where signal strength is high; most often this is on the roof of your home. It would help if this antenna (the receiving antenna) is high gain. If you want to receive stations from a particular direction, then a beam antenna will be useful. Otherwise a non-directional antenna is appropriate. Connect the feedline to the receiving antenna and run it to the low signal-strength area where the second antenna (the re-transmitting antenna) is to be located. A quarterwave groundplane antenna mounted upside-down on the ceiling of the room, or in the crawl space above the ceiling, gives a pattern which will cover the room well.

Keep in mind that all antennas are somewhat selective of the frequencies to which they respond well, and that some antennas are much broader in their response than others. The effectiveness of your passive-repeater antenna system, or any scanning antenna system, will depend to some degree on the responsiveness of the antennas utilized to the frequencies to be scanned.

Another factor to bear in mind is that the feedpoint impedance of the antennas utilized, and impedance of the feedline utilized, should be matched. That means that they should

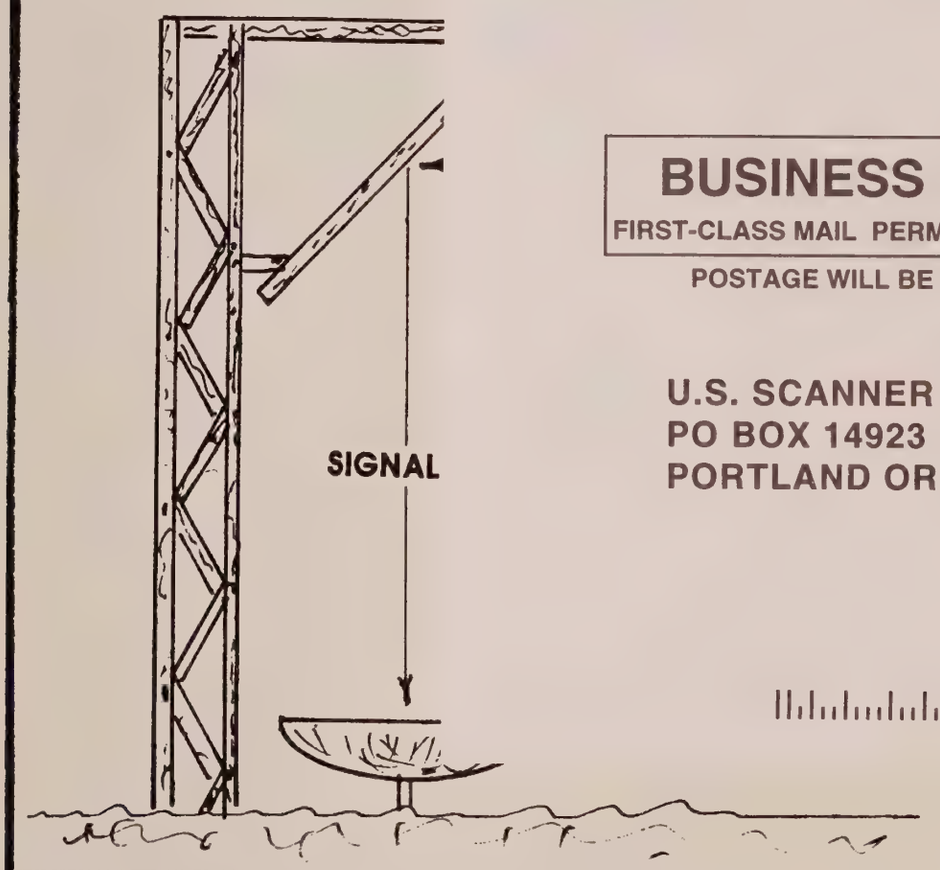

FIG. 3. A periscope antenna.

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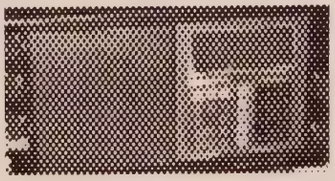

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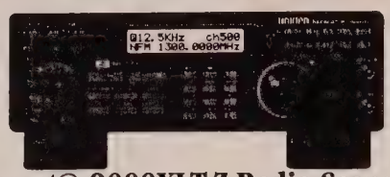

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AC/DC?

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by the USSN Staff

No, we're not talking about anything weird here. Just about ways to power your scanners.

There are a lot of hobbyists who power all of their equipment from 12 DC power, rather than plug them into the 120 Volt AC line. Amateur radio operators, in particular, will do this, mainly because the power supply for many medium to higher power ham transmitters is a separate unit. If you are going to buy or make one, why not use it for everything that runs on 12 volts?

The use of DC power by scanneristics goes back quite a few years. The single greatest motivation for this was probably the (in)famous Bearcat 250 which, besides having a number of problems with its constantly-being-redesigned power supply, just simply ran *very* hot. (Which probably helped contribute to the very common failure of the programmable frequency divider I.C. in these radios.) And about that same time, a number of scanners came out that were powered by external DC wall plug-in power supplies, like the Regency M100 and M400.

Many scanner listeners also desire to have a backup source of power for their radios, particularly since the power usually goes out during storms and at other times you really want to be listening! That's one of the biggest advantages to powering everything from a DC source. All you have to do is just disconnect the AC source and hook up a car battery and you are back on the air. Another big advantage? You can use the same supply to power any accessories that need an external source of 12 volts, such as packet controllers, converters, pre-amps and so forth.

You may need a fairly good-sized power supply, depending on how much equipment you plan on powering. Your typical scanner in the 2004 class draws a little under an ampere. Big monsters, like an Icom R7100, draw almost 2 amps with the volume up. A little handheld will draw less than 200 milliwatts or so (.2 amp).

But you don't have to use an expensive, super-regulated, low-ripple, mega-buck monster. Remember that you are only bypassing the radios internal power supply and, in most cases, this is only a transformer and a diode rectifier! Regulator circuits are usually "downstream" from the main supply and are still in the circuit in the design of probably two-thirds of the radios out there. All you are eliminating is the power-consuming, heat-generating power transformer in the radio.

So in many cases you can probably pick up an old 12 volt filament transformer down at the electronic surplus store for a few bucks, add a diode bridge rectifier of suitable rating, followed by a couple of electrolytic filter capacitors. Add a (fused) power cord and you are in business.

By the way, while you're at it, add a GE V130LA20 or LA30 MOV surge suppressor across the AC line cord for protection against voltage spikes. A universal type is the NTE 524V13.

An alternative is to run your rigs from automotive or marine batteries, leaving them on a trickle charger at all times. This has advantages, but also hazards. Place the batteries in an open space. Don't stick them in a closet! Keep a box of baking soda nearby. Keep the kids away from them! The batteries will also require maintenance periodically. And you can probably make a power supply for less money than the cost of a new car battery!

The main advantage to using batteries is if you lose your power frequently. An AC-powered 12 volt supply won't do you much good with no AC power! Plus, you can also make yourself up a small room lamp, made with a small automotive-type bulb and socket. You then have light when the power goes off. But don't get carried away. The bigger the bulb, the faster it will drain the battery.

A small pilot lamp-type bulb somewhere in the circuit might not be a bad idea whether you use batteries or an AC

supply. This will give you a positive indication that your supply is on. When you leave for the day, switch off or disconnect your supply and you're 100% sure everything is "dead."

In either case, connection to your radios can consist of two heavy gauge "buss" wires, connected at points along their length to the positive and negative power leads to your radios. This requires some soldering skill and the exercise of some caution, making sure that all connections are securely insulated with tape or shrink-wrap tubing. Terminal or "barrier" strips might be a good choice, allowing easy, reliable connections.

An alternative to stringing buss wires is the use of a multiple-cigarette outlet strip. These are available at RV supply stores. If you can't find one, they are easy to make, although you'll be back to having to use your wiring skills. I picked up a half dozen cigarette-lighter outlet wall plates fairly cheap a few years ago. I remove the outlets (they just unscrew) and mounted five of them in a row in a long, narrow aluminum box. The power lead comes out a grommeted hole on one end, terminated in a cigarette lighter plug. Each outlet is connected internally with ten-gauge wire and terminal lugs. I use this for multiple outlets in my van, but it can just as easily be used at home.

This second approach is far more expensive, especially if you use individual cigarette-lighter power cords for each radio. But it's not as bad as you think. First of all, you probably already have DC cords for many of your radios. To run the radio mobile, all you have to do is unplug the cord from your outlet strip and carry it out to your car! Also, it works great for handheld scanners if you should want to use them at home. If you have a DC auto cord for your handheld, all you do is plug it in to the DC outlet strip. It's a lot less hassle than untangling a whole slew of wall plug-in transformers every time you want to use your handheld in the house without running the batteries down. You can also use it to charge the batteries, with a suitable power cord (with a current limmiting resistor).

The only other caution I can give is to fuse *everything!* If you have to make up cords for your radios, put in-line fuse holders on every line. If you use lighter plugs, try and get the type with the fuse in the center tip. These are pretty much idiot-proof and, to me, appear the safest choice. If you don't know what value fuse to use, I'd recommend something in the neighborhood of two amps. Put another fuse in the main line to the power supply, about a ten amp'er if you are running three or four radios. Pick something roughly 1.5 times the amperage capacity of your AC supply.

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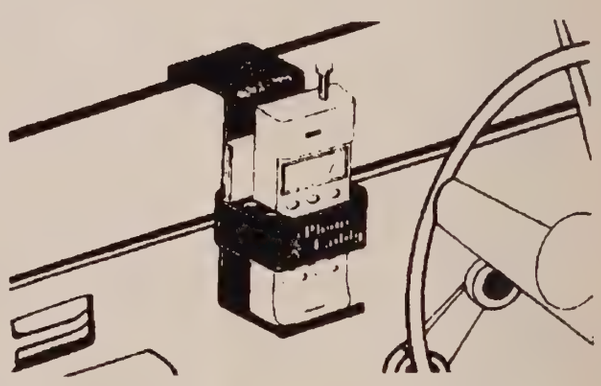

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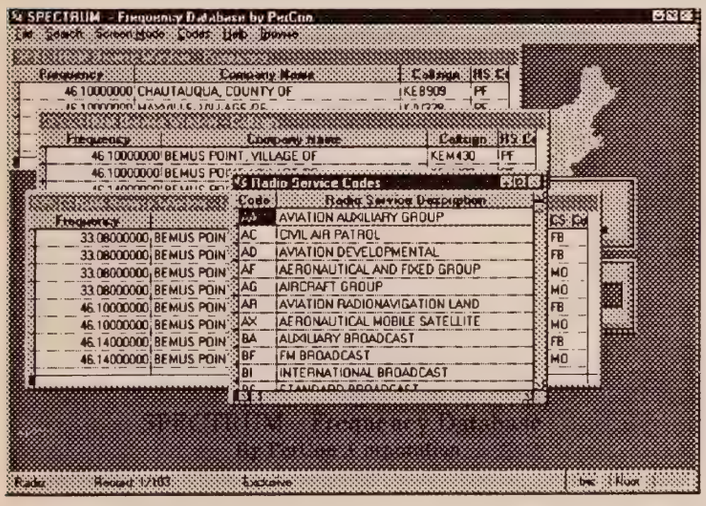
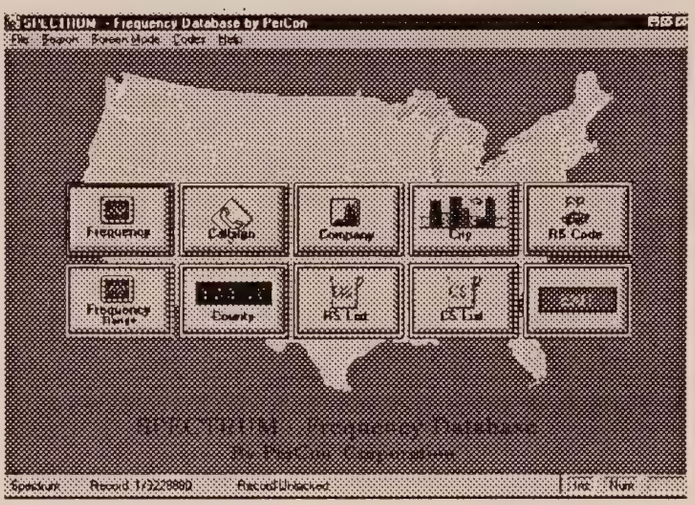
The system for DOS/WIN requires a 386 Processor or above, VGA video display(CGA/EGA/VGA for DOS),4 Meg of Memory, a minimum of 4 Meg of Hard Disk, CDROM drive, mouse, a printer for reports, Dos 6.0 or above and Win 3.1 or above. For the MAC, System 7.5, CDROM drive, Mouse, 4 Meg of Hard Disk minimum, and 4 Meg of memory.





SPECTRUM *comes as a complete system, requiring no installation or setup. The program is executed from the CDROM. The program allows the user to extract data for display in a Browse Screen,Export to a UFDBF, or to 80 / 132 column printed reports. Data can be extracted by a Frequency/Range in a Region, Callsign in a State, DBA Name in a State, Radio Service Code in a City, all Frequencies in a County, or all Frequencies in a City. The user is prompted for all required search parameters. The program is extremely easy to use and is suitable for entry-level as well as advanced scanner enthusiasts.*

The database is in a Dbase III , IV ,or FoxPro Compatible file format. Export to UFDBF.

PerCon also has New Ham, Ham/Repeater, Aviation and other Frequency Database CDROMS.

$ 29.95

Additional S&H For UPS Blue is $7.50

PerCon Corporation
4906 Maple Springs / Ellery Road
Bemus Point, NY 14712
(716) 386-6015 Fax (716) 386-6013

PUBLIC SAFETY COMMUNICATIONS

Area Profile: Washington, D.C.

by Ed Muro

According to FCC regulations the Public Safety Radio Services includes the Local Government, Police, Fire, Highway Maintenance, Emergency Medical and the Forestry Conservation radio services. I would define public safety as the services, personnel, and equipment at the disposal of the average citizen to protect, maintain, and enhance their quality of life.

Those Screwy Trunked Systems, Atlanta, Georgia

The City of Atlanta has been in the process of moving their public safety communications over to a new trunked system. Atlanta's frequencies are currently a moving target. The twelve-channel public safety trunked system was activated for the police in November and within two days they had shut down two frequencies, apparently due to interference with other systems. Since then the fire department has made the switch, and two more channels have died. They borrowed three frequencies from the existing city trunked general service system to take up the slack. The phone-patch frequency appears reserved strictly for phone calls. The control channels alternate, approximately every two days.

Frequencies at this time (subject to change, again)

Public Safety Trunked System		City General Service Municipal System	
856.4625	856.4875	857.4625	857.4875
858.2375	858.4375p	858.4625p	858.4875
858.7625c	858.9375*	859.4875	
859.2375c	859.4375*	860.4625p	860.4875*
859.4625	859.7625*	(*) inactive,	
859.9375		(p) phone patch,	
860.2375*	860.4375	(c) control channels	
860.7625	860.9375		

New York City, North Jersey Update

The New York City Police Department is testing approximately 15 new frequencies in the 482.300 to 482.8875 range which are supposed to come on-line during the summer. It is also reported that there have been D.V.P. tests conducted on the channels as well.

Bergen County (New Jersey) Police has three or four frequencies in the 482 range, but you can't use 482 MHz T-Band frequencies west of the Hudson River. So they are trying to work out a deal with the Nassau County (New York) Police Department to swap some of their frequencies in the 477-478 range that have been known to interfere with some departments in Bergen. The F.C.C. has granted permission for the switch but Nassau County has not hinted when they will make the change.

Dispatchers Corner: In the last issue we brought you the story of Frank Casey, a blind communications operator from Albany, New York. This month I would like to tip my hat to all of the personnel that serve the 911 systems in this country. I recently passed the Nassau County, New York Police Communications Operators test. I was stunned when I opened the letter inviting me to apply for an interview for such a high pressure job, that pays a salary well below $19,000 per year. In this area, rent for a one bedroom apartment averages $750 to $800 per month. This tells me that the people on the air are truly dedicated public servants.

APCO-25, Revisited:

With APCO-25 in mind, Motorola has introduced the MCS-2000 line of mobile radios. Designed for adaptability,

Photo by R. Gehri

A Life Flight Helicopter on Display at the Opening of the New 911 Center in Vancouver, WA.

Knox County, Maine

Police

155.010	Knox Cnty Police
154.800	Camden Police
155.010	Camden Police
153.680	Rockland Police
155.010	Rockland Police
155.475	Rockland Police
154.695	Rockport Police
155.010	Rockport Police
155.565	St George Police
155.010	Thomaston Police

Fire

154.310	Statewide Fire Chan. All Dept.
33.70	Knox County - All Depts.
154.370	Camden Fire District
153.875	Cushing Fire District
154.205	North Haven Fire District
154.325	Rockland Fire Dept.
154.340	S. Thomaston Fire Dist.
453.350	Union Fire District
154.370	Vinalhaven Fire District
154.430	Warren Fire District
154.355	Washington Fire District

E.M.S.

155.340	Camden First Aid Assoc.
35.64	Penobscot Bay Med. Cntr
151.895	Penobscot Bay Med. Cntr
152.0075	Pen. Bay Med. Cntr. paging
155.325	Penobscot Bay Med.Cntr
155.340	Penobscot Bay Med. Cntr
155.220	Seacoast Ambulance (Rockport)

Public Works

153.995	Knox County Services
155.745	Knox County Services
158.880	Knox County Services
153.920	Camden Town Services
155.085	Camden Town Services
156.000	Camden Town Services
151.055	Friendship Town Hwy Dept
151.115	Rockland Highway Dept
156.450	Rockland - Marine Svc.
156.475	Rockland - Marine Svc.
156.500	Rockland - Marine Svc.
153.905	Rockland City Services
155.145	Rockport Town Services
155.040	Thomaston Town Svc.
154.980	Union Town Services
158.835	Vinalhaven Town Svc.
151.085	Warren Town Hwy Dept

Ketchikan, Alaska

42.000	Alaska National Guard
42.020	State Wide Police Frequency KT2353
42.960	Service Electric Co KJX585
47.040	AK Dept. of Hwy. Ketchikan. KRM823
154.205	Ketchikan Fire Dept. KCZ461
154.370	Metlakatla Ambulance Rescue Squad
154.400	Pond Reef Fire Dept. KQ 922
154.430	Metlakatla Fire Dept.KZQ758
154.725	Ketchikan Police Dept.KCB462
155.100	Alaska State Ferry System, Car Loaders. KFB644
155.250	Alaska State Troopers, Ketchikan.KWA905
155.340	Ketchikan General Hospital KXO924
155.370	Metlakatla Police Dept. KJH667
155.490	Airport Security. Ktn.Int'l Airport KXO950
155.775	Boro Animal Control KXO951
155.820	Airport Operations, Ktn Int'l Airport.
155.955	Ketchikan Public Works.

City of Arlington, Texas

(Home of the Dallas Cowboys)

Police

460.3000 WPDR211	Arlington
465.3000 WPDR211	Arlington

University of Texas

155.3700 KGJ707	Arlington
155.4900 KGJ707	Arlington
155.7000 KGJ707	Arlington

U.S. Virgin Islands

(Still rebuilding from the Hurricanes of '95)

Virgin Island Emergency Management Authority
158.865

Saint Thomas Police
158.790, 159.030

E.M.S.
155.220

Saint Thomas Fire Department
158.955

Bedford Hills, New York
Westchester County

Police

39.620	WNML992
155.070	KNGJ594
155.250	WDU858
155.310	WDU858
155.370	WDU858
155.430	WDU858
158.850	WDU858
158.970	WDU858

New York State, Bedford Hills
Unknown Use KNIX606
460.100 & 465.100

A-1 Ambulance Service, KAE4401
462.550, 462.550, 467.550

American Red Cross KAD8801
462.675, 467.675, KAD8801

Countywide REACT Inc., KAB4298
462.675

Long Island Railroad Police Radio System, 160.455 MHz.

(The L.I.R.R. is a commuter rail line linking Long Island to New York City)

Radio Code Signals

10-1	Call Central by Land-line.	10-19	Trespasser(s).
10-2	Report to your Command.	10-20	Other Possible Crime.
10-3	Call . . .location.	10-21	Aided Case.
10-4	Acknowledgment.	10-22	D.O.A.
10-5	Investigation.	10-23	Request Ambulance.
10-6	Robbery in Progress.	10-24	Cancel Ambulance or Fire Dept.
10-7	Larceny in Progress.	10-25	Report of Fire.
10-8	Burglary in Progress.	10-26	False Alarm.
10-9	Assault in Progress.	10-27	Malfunctioning Crossing Gates
10-10	Bomb Scare.	10-28	Auto on Tracks.
10-11	Hold-up Alarm.	10-29	Car-Train wreck.
10-12	Suspicious Person or Auto.	10-30	Additional Units Required.
10-13	Police Officer Needs Assist.	10-31	Local Police Required.
10-14	Report of person(s) throwing rocks at train.	10-32	Arrived at scene.
		10-33	Out of Service.
10-15	Obstruction on track(s).	10-34	Back in Service.
10-16	Fare Dispute.	10-35	Request Supervisor.
10-17	Disorderly Person.	10-36	Unfounded.
10-18	Crowd Control.	10-37	Condition Corrected.

Motorola's smallest mobile units are built on a flexible platform. Due to the flexible software packages, the system can easily be upgraded. The software allows the radio to be programmed to operate at 12.5, 20, 25 or 30 kHz spacing simultaneously, depending on band type.

Computer Corner

Free—Metro Emergency BBS (by modem: 516-488-4325 or 516-488-3921) catering to the entire public safety community. Run by Larry, of Floral Park.

Frequency Forum BBS (Catering to Delaware, Maryland, Virginia, and DC) 703-270-9622. Run by Ken Fowler.

Computer Nets and Local Talk Groups

One way to more actively participate in the hobby and with other local hobbyists is to get involved with a local ham or scanner net. There are many around the country and there is sure to be some type of group in your area. Some noteworthy ones are:

Nationwide

Thursday, 9 PM (eastern) The America On-line (AOL) computer network runs a scanner conference in their Ham Radio Club Conference room. The net is run by Lesscan.

North Carolina

Triangle Scanner & Shortwave Listening group produces a weekly net on Mondays (except the 3rd Monday of the month) on 146.640.

New York Metro Area Scanner Conferences

Tuesday 8 PM - 10 PM 146.805 Run by Ed WB2RVA (MLIS)*

Wednesday 8 PM 145.190 Run by Charley N2NOV

Friday 9 PM 147.210 Run by Hank N2GCN

*The Tuesday night net run by Ed WB2RVA is supported with a bi-monthly newsletter called "Monitoring Long Island Sounds" which is distributed free of charge, as long as you PARTICIPATE! For those of you who cannot access the repeater, Ed encourages listeners to write in with what he calls "fan mail".

Ohio

Monday 9:30 PM 146.940 Dayton Amateur Radio Assoc.-AOSC Net.

Thursday 9:30 PM 145.210 MONIX Net

Mailbag

Carl Gerosa III, a long time scanning enthusiast from Westchester, New York, writes in with the following confirmed frequencies:

46.14, Westchester Cnty EMS-Medivac "Stat Flight" Ch B-4

46.30, Mamaroneck Village FD KEF-940

463.00, Westchester County Medical Center in Valhalla is patched through "60 control" for "Stat Flight" operations.

153.890, Fairview Fire Dist–White Plains: Fireground

450.75, WFAS-FM Radio Remotes located in Hartsdale

455.65, WFAS-FM

129.60, ARINC Westchester Cnty Airport

136.525, ARINC JFK "Emery Dispatch"

Pete Szerlag of Arlington, Massachusetts reports that the Stoneham, Massachusetts Fire Department is operating on a new Frequency of 460.625 (R). He reports that they are a fully paid department operating out of one station located in Stoneham Square. There are hydrants throughout the entire district as well as street telegraph boxes.

Stoneham F.D. Apparatus

E4, Lead pumper / Rescue unit / EMS Unit
E5, Secondary pumper
L1, Aerial ladder

E.M.S. calls generate a response from Engine 4, Action Ambulance (462.950) and the P.D. Structure Fire calls get a response from Engines 4 and 5 as well as Ladder 1.

Pete also reports on the Plymouth, Massachusetts Police Department-

482.6625 Primary
482.7375
452.675

Unit Numbering

Car 2	Sergeant on patrol
Car 4	?
Car 5	South
Car 6	Downtown
Car 8	South
Car 12	?
D	Dispatcher

Code 6, Enroute to station house

Finally, Pete reports that WRKO-AM is using 450.0625 as their engineering channel.

As always, feel free to write in with any questions or comments via the Internet at: Edmuro3@aol.com or by U.S. Mail c/o the U.S.S.N. address listed on page 3.

USSN

Photo by Ed Muro

Fireman Laying Hose at a Commercial Fire in NY State.

FEATURE ARTICLE

Experimental Aircraft Association

The EAA Annual International Fly–In Convention is August 1–7.

by Roger West

The Experimental Aircraft Association (EAA) Annual International Fly-in Convention and Aviation Exhibition at Oshkosh, Wisconsin is just about here. Yes, the fly-in is rapidly approaching, and soon the international event will reunite all aviation buffs along the shores of Wisconsin's Lake Winnebago at Wittman Regional Airport. Thousands and thousands of aircraft enthusiasts from around the globe will participate in the week-long activities that revolve around more than 500 educational forums, seminars and workshops. Daily air shows, evening programs and a host of other activities will inform and entertain. Showplanes of every size, shape and description will underscore a devotion to excellence by all those striving for EAA's prestigious "Lindy" awards that recognize the "best of the best" in aircraft construction and restoration.

Information is exchanged freely and frequently at this immense event in Oshkosh. There is an individual sharing of techniques and technology that you won't find anywhere else. From designers, builders, restorers and dreamers to convention participants walking along the flight line, there is a universal willingness to provide knowledge, insights and experience to all who ask.

The EEA Fly-In Convention is the world's greatest sport aviation gathering that this editor is aware of. Thousands of aircraft, people, and the biggest names in aviation, are all gathered for one week to share the world of flight.

The events at Oshkosh this year will include tributes to the people and aircraft involved in both the Korean and Vietnam conflicts. Special areas along the flight line designated for each will include a tent pavilion where those involved can stop by, relax, meet old friends and make many new ones.

Experimental Aircraft Association Fly-In Convention
August 1-7
Wittman Regional Airport
Oshkosh, Wisconsin USA

Similarly, another tent pavilion will serve as a host facility for those who have been involved in America's pioneering Test Pilot programs, in the air and on the ground. A "Salute to Test Pilots" is also one of the many events at this year's fly-in.

In addition to serving as a gathering place for the participants in each of these activities, the Tent Pavilions offer a once-in-a-lifetime opportunity for the Experimental Aircraft Association members and other convention attendees to meet the men and women who have shaped aviation, and world, history.

This year, the Forums Plaza will again be co-sponsored by the General Aviation Manufactures Association (GAMA) and the Jeppesen Company. Their generous support is greatly appreciated, as the forums represent the cornerstone of the Experimental Aircraft Association's educational activities.

Participation by the General Aviation Manufactures Association and the Jeppesen Company provides added perspectives and information that will be of great benefit to the EAA members and other convention participants. In addition to the hundreds of forums covering the full spectrum of aviation, GAMA has again scheduled an impressive lineup of speakers for their own

(Continued on page 19)

Photo by Mike Husar, Courtesy of EAA

The Main Gate at Oshkosh, WI., EAA Convention.

Frequencies to Monitor at Oshkosh, Wisconsin

(all times shown are Central Standard Time)

WITTMAN REGIONAL AIRPORT, OSHKOSH, WISC.

History of Wittman Regional Airport:

Steve Wittman, pioneer pilot whose license was signed by Orville Wright, began managing Oshkosh Airport in 1931, the airport that would eventually receive his name. Wittman designed and built racing planes, including "Buster" which is on display at the National Air Space Museum in Washington, D.C.

His fame and enthusiasm for aviation was one of the factors that led to the choice of Oshkosh for the home of the world-renowned Experimental Aircraft Association. The annual EAA Fly-In brings thousands of planes and hundreds of thousands of people from around the world to Oshkosh, Wisconsin, making it the busiest airport in the world for one week each summer.

AIRFIELD OPERATIONS:
REMARKS- Attended 7 am - 8 pm. (these are the regular operating hours.)
PILOT ALERTS!! ** Tall trees in vicinity of airport!!** Flocks of birds, especially gulls, on and in vicinity of airport!!
** Parachute Jumping/Skydiving in vicinity of airport!!

CTAF	118.500	
UNICOM	122.950	
ATIS	125.900	
FSS	122.100	
	122.250	
Appr/Dep (Chicago Cntr)	127.000	387.100
Tower	118.500	257.600
Ground	121.900	
Show Control	128.000	

GROUND OPERATIONS:

Airport Fire Department	154.445
EAA Aviation Foundation	464.375 (repeater)
EAA Aviation Foundation	464.500 Base Station
EAA Aviation Foundation	464.550 Base Station
EAA Inc.	461.1125/466.1425 Mobiles & Portables (Traffic?)
EAA Inc.	461.3125/466.3125 Mobiles & Portables (repeater)
EAA Inc.	461.4875/466.4875 Mobiles & Portables
EAA Inc.	461.5375 (repeater)
EAA Inc.	463.2125 (repeater)
EAA Inc.	464.3750 (repeater) (maintenance?)
Civil Air Patrol	143.750
Civil Air Patrol	148.150 (Repeater)
Civil Air Patrol	122.900
Civil Air Patrol	123.100
Public Safety Operations	151.280 (MARC)
Public Safety Operations	153.845 (MARC)
Parking	151.625
City of Oshkosh Buses	453.625 & 458.625
Oshkosh Bus Service	151.655
Officials	464.550 (repeater)
Federal Aviation Admin.	172.150
Federal Aviation Admin.	172.850 (repeater)
Federal Aviation Admin.	172.925
Concession Stands?	461.150
Flightline Operations	464.500
Camping and Traffic Info.	530 AM Radio
Amateur Ham Radio	146.400
Amateur Ham Radio	147.945
Amateur Ham Radio	147.345
Winnebago County Sheriff	158.835 (car-to-car)
Wisconsin State Patrol	460.100/465.100
Terminal Operations	464.025/469.025
U.S.Army Parachute Team	32.30
U.S.Army Parachute Team	42.35
U.S.Army Parachute Team	123.425
U.S.Army Parachute Team	123.475
EAA Inc.	461.5375 Mobiles & Portables
EAA Inc.	462.1125 Mobiles & Portables
EAA Inc.	463.2125 Mobiles & Portables
EAA Inc.	464.1125 Mobiles & Portables
EAA Inc.	464.8750 Base Station & Mobile & Portables
EAA Inc.	467.8875 Mobiles & Portables
EAA Inc.	467.9125 Mobiles & Portables

FOND DU LAC COUNTY AIRPORT, FOND DU LAC, WISC.

REMARKS- Attended 8 am - Dusk.
PILOT ALERTS!! ** Tall trees in vicinity of airport!!

CTAF/UNICOM	122.800	
FSS	122.500	
Appr/Dep(Chicago Cnt)	127.050	381.700

BRENNARD AIRPORT, NEENAH, WISC.

REMARKS- Attended Monday-Friday 8 am - 4:30 pm, and Saturdays 8 am - Noon.
PILOT ALERTS!! Tall trees in vicinity of airport!!

CTAF	122.900

OUTAGAMIE COUNTY AIRPORT, APPLETON, WISC.

REMARKS- Attended continuously.
PILOT ALERTS!! ** Deer on and in vicinity of airport!!
** Wildlife on and in vicinity of airport!!
** Flocks of migratory waterfowl on and in vicinity of airport!!

CTAF	119.600	
UNICOM	122.900	
ATIS (5:30 am - 11 pm)	127.150	
Appr/Dep	125.550	370.900
		126.300
	338.200	
Tower (5:30 am - 11 pm.)	119.600	
Ground	121.700	

CITY OF OSHKOSH, WISC.

Police	154.800 (F-2)
Police	155.370 (point-to-point)
Police	155.475 (mutual aid)
Police	156.150
Police	460.125
Police	460.250
Police	465.100
Fire	153.770
Fire	154.190
Fire	154.445
Local	155.100
Local	155.805
Local	158.880
Local	453.300

WINNEBAGO COUNTY

Sheriff	154.950
Sheriff	155.370 (point-to-point)
Sheriff	155.475 (mutual aid)
Sheriff	155.610
Sheriff	155.655
Sheriff	156.150
Sheriff	156.150
Sheriff	158.730
Sheriff	158.910
Sheriff	159.030
Public Safety (800MHz)	855.7125
Fire	154.295 (mutual aid)
Fire	154.325
Fire	154.445
EMT/EMS	155.265
EMT/EMS	155.340
Local	453.625
Local	155.895

MISC.

American Red Cross at Oshkosh	47.42 (national)
American Red Cross at Oshkosh	47.50 (local)

CREDITS: IFR DOD Publication, DOD Airport Directory, FAA Data Bank, MY Data Bank, EAA of Oshkosh, Wi., City of Oshkosh, Wi.

Forums Tent. The GAMA Forums will complement EAA forums by focusing on subject matter ranging from airframes and engines to avionics and components.

The Forums area has been expanded for greater separation between tents. This should help improve the pedestrian flow throughout the area. More importantly, it will help improve the overall sound quality within each tent.

Some of the highlights at this years event will be performances by Bob Hoover, the Eagles Aerobatic Flight Team, Charlie Hillard in a modified Sea Fury called the "Texas Fury," and Gene Souch in his Extra 300.

This is in addition to the U.S.Army's "Golden Knights," EAA Warbirds of America (which will include an aerial tribute to the Korean and Vietnam Wars), Matt Chapman Airshows, Mike Goulian Airshows, North American Aerobatic Team, the Northern Lights, Patty Wagstaff Airshows, Inc., and Julie Clark's American Aerobatics; and the list goes on and on!

Being an aviation buff myself, who loves to fly, I have been asked many times how it feels to be up there with just one or two others and the entire sky at our disposal? Well, I can best describe the experience with the following words: "When I am up there, I feel as though I could reach out and touch the hand of my maker!"

So if you get the chance to attend, don't forget your scanner, lawn chair, hat, camera and film, and be prepared for a thrill a minute. See you all at Oshkosh, B'Gosh. Roger

USSN

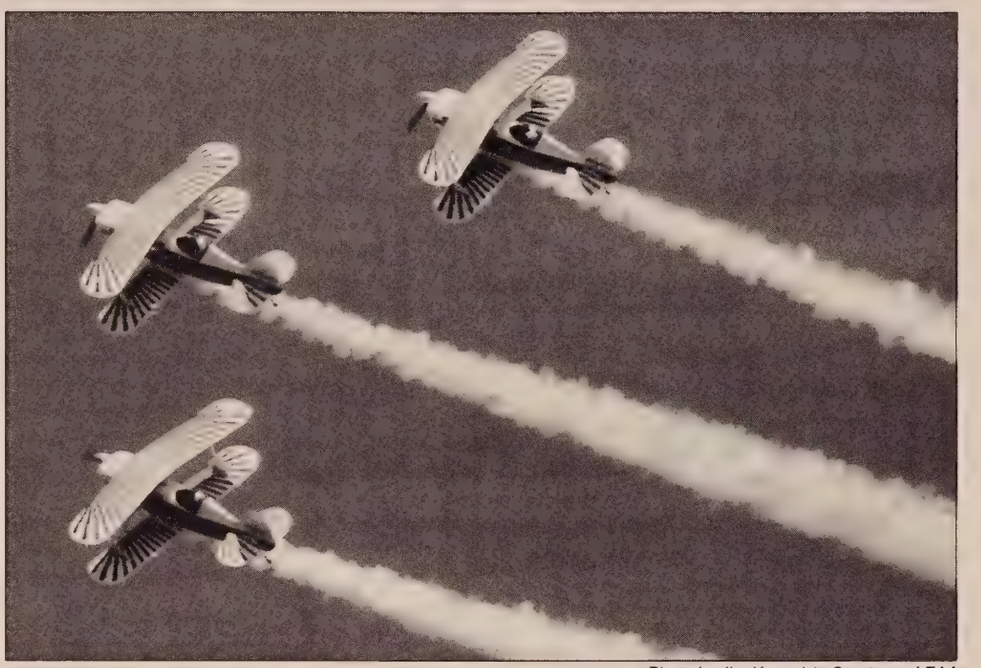
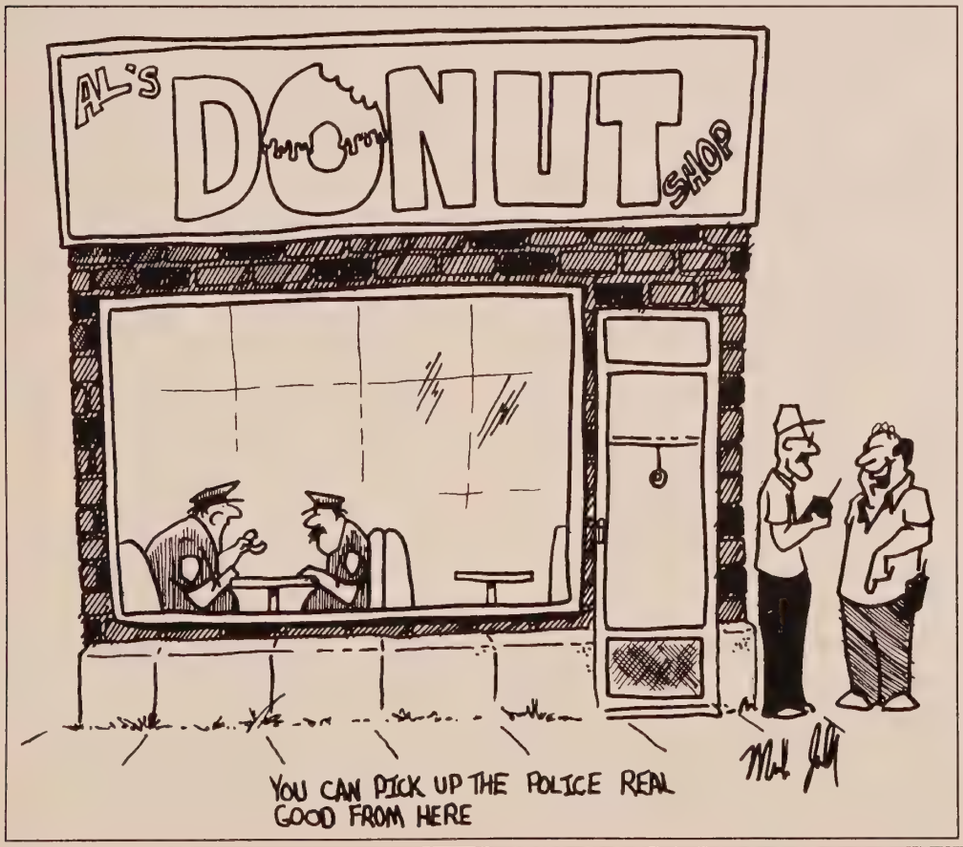


Photo by Jim Koepnick, Courtesy of EAA

Biplane Demonstration Team at the EAA Fly–In Convention.



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FEATURE ARTICLE

SIGINT Strategies: Finding Frequencies

How to Find the Good Stuff Not Listed in the Ordinary Frequency Guides.

by Tom Filecco

Eventually, the serious scanner hobbyist gets the urge to go beyond listening to the standard, widely available public safety and business frequencies. They get the desire to look for the good stuff that they will not find listed in Police Call or any of the other scanner—frequency directories. The object of the hobbyist's listening might also be something mundane, like the local mall security force, but a search through the directories fails to uncover their operating frequency. In either of these situations, the hobbyist can resort to using the various techniques detailed in this article to acquire an elusive frequency.

There are two basic approaches to finding frequencies. The first approach is to go on an electronic fishing expedition. This is how hobbyists operate most of the time. You simply take a small piece of the frequency spectrum that your radio is capable of receiving and listen to see what you can find. The second approach is to pick a specific target to be the focus of your monitoring attention and attempt to find the frequencies they use. During the course of using this second approach you will find other users; which you might find interesting later. I recommend that you use the first approach once in a while. Knowing the usual activity around you will help determine how far you can listen, and especially important, when an out of the ordinary transmission appears. I recommend you acquire frequency directories for your area. The most common one is Police Call. Police Call is available at Radio Shack or by mail order. It is excellent for public safety listings, but only average when it comes to identifying businesses. There are other excellent directories available for particular local areas.

For hobbyists in the states of Connecticut, New York, and Massachusetts, I recommend Scanner Master and Official (insert name of state) Frequency Guide frequency directories. The best federal frequency directory in print form still remains the Top Secret Registry of US Government Radio Frequencies. If you have access to the Fidonet scanner message base, Roger Cravens periodically posts his very large, superlative list of federal frequencies to that message base. A frequency directory will identify the normal users of an area. This is useful in preventing you from wasting hours analyzing a common signal, when you should be analyzing something else.

The tool that every monitoring hobbyist has is the "search" function on their scanner. Most of them, however, do not know how to use it. You should know the frequency band that your target uses. You should have an idea of where in that band they would be operating. You should search probable areas in small sections.

Knowing what band a target operates in could be a matter of general knowledge. If your local police dispatch channel is in VHF-high band, then it is a good bet that their unlisted tactical channel is also there. It can also be determined by looking at the antennas on vehicles—unless the vehicle has a disguised antenna. A VHF-low band antenna will be a 60 to 100 inch whip or a 35 inch whip with a 5 inch coil on the bottom. A VHF-high band antenna will be either an 18 inch whip or a 40 inch whip with a 3 inch coil on the bottom. UHF band antennas will be either a 6 inch whip or a 35 inch whip with a thin plastic band in the middle. 800 MHz antennas are either a 3 inch whip or a 13 inch whip with a "pig tail" coil in the middle. A cellular phone antenna is a common example. I suggest ordering the catalogs of various antenna manufacturers to get a visual idea of what antennas on each of the bands look like. You can do the same thing with handie-talkie antennas. A VHF-low band antenna will be about a foot long. A VHF-high band antenna will be about six inches long and about as thick as your index or middle finger. UHF antennas will be either 6 inches long and slender compared to the VHF-high band antenna, or three inches long. 800 MHz antennas are about an inch and a half long.

Once you know the frequency band, you determine where in that band they might be operating. In most non-federal cases, this is as easy as looking at the Consolidated Frequency List in the back of Police Call. The two types of users you might have problems with are police departments and the federal government. Police departments can use any public safety frequency for "tactical" communications on a non-interference basis. The FCC also licenses local government services for frequencies allocated to a different public safety service; if the frequency does not have a licensee already assigned to it. For example, a fire department being licensed to a frequency allocated for highway maintenance. The Intergovernmental Radio Advisory Committee (IRAC) handles licenses for the federal government. IRAC listings

have been exempt from the Freedom of Information Act since 1983. The mundane agencies have been using the same frequencies for the past 13 years, but some of the more interesting ones have changed frequencies. The IRAC listings in the Consolidated Frequency List are still fairly accurate. Remember that they are only fairly accurate.

You should search a range that covers three to five seconds, and with the scanner's fastest speed. This seems to be the average duration for a radio transmission. Let's say that you are searching the VHF high band with a scanner that does 50 steps a second. Channel spacing for VHF high band is 5 KHz. You should search your target areas in sweeps of 750 KHz to 1.25 MHz. Search a range for one to two weeks at different times—to catch everything in that range.

One little-known trick is to use one of those old tunable public safety band receivers that predate scanners. An example would be the Realistic PRO-2. It covered 30 to 50 and 152 to 174 MHz. You can pick one up at a flea market or hamfest for as little as $5. Radio Shack still sells a "multiband portable" (#12-649) that covers the aircraft and VHF-high bands, but at $100, I think it's overpriced. While these units lack the sensitivity and selectivity of a scanner, they are excellent for doing high-speed searching. Once you get a hit, you will have narrowed the possible frequency range down to roughly 500 KHz. You then use your scanner's search function to find the exact frequency. They are also good dedicated single channel receivers for things like NOAA weather radio and the local fire department's dispatch frequency. If you ever find an old multiband portable that covers UHF-TV, remember that channels 70-83 are now the 800 MHz public safety, business, and cellular phone band.

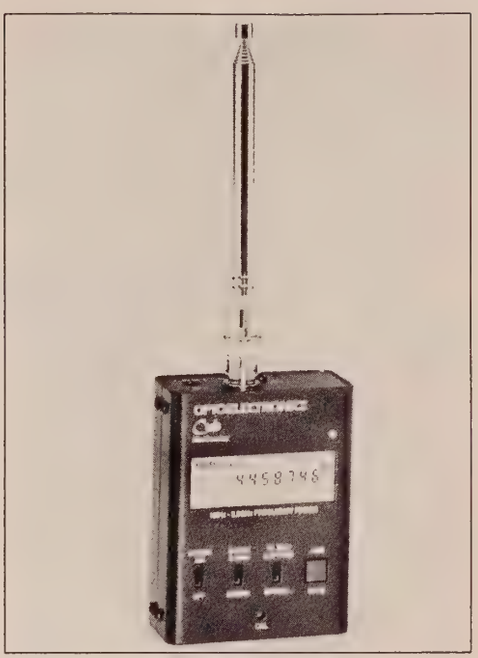
If a signal is in your location's coverage area and your scanner is capable of receiving the frequency, you will eventually find it by searching. This will take time. If you are in a situation where you desire a faster approach, you can use a frequency counter.

A frequency counter is probably one of the most useful tools a SIGINT hobbyist can own. A frequency counter works by locking on the strongest radio signal in an area and displaying the frequency. I strongly suggest that you bite the bullet and buy the Optoelectronics Scout if you are going to get into this facet of SIGINT. Other frequency counters cost less, but lack the features the Scout possesses. These features make a world of difference between simply being a piece of test equipment, and being a SIGINT tool. The Scout will automatically capture a frequency and store up to four hundred of them in memory. When the Scout captures a frequency, it will either beep or discreetly vibrate. In each of the frequency memories, the Scout stores up to 255 "hits." This lets you know how active a given frequency is. The scout has a CI-V interface. The CI-V interface connects to a PC for automatic frequency logging, or to a receiver for reaction tuning. With reaction tuning, the receiver automatically tunes to the frequency the Scout captures. I used a Radio Shack frequency counter for SIGINT work before I bought a Scout. It had adequate sensitivity, but required constant viewing and a quick writing hand in order to use it effectively. It was also very difficult to use while driving.

Frequency counters work in a radio transmission's "near field." This means that you will generally have to be within one thousand feet of the target transmitter in order to acquire the frequency. The following table shows the average distances which one will acquire a particular type of transmitter:

There are a few things you can do to enhance a frequency counter's operation. The first technique involves antenna usage. The standard telescoping whip is good for many operations, but you can do better. With the standard whip antenna, the Scout will pick up a

Transmitter	Distance
1.2 GHz. 3 watt radio	25 feet
870 MHz. 3 watt Cellular Phone	150 feet
UHF 1 watt radio	200 feet
FM Wireless Microphone	10 feet
VHF-high band 1 watt radio	90 feet
46/49 MHz. cordless phone	20 feet
27 Mhz. 5 watt CB	40 feet



Optoelectronics Cub

cellular phone at approximately one hundred fifty feet. Hook it up to a 5/8 wave 800 MHz antenna and the range increases to approximately three hundred feet. A high-gain antenna designed for the band of interest will increase

Optoelectronics Scout

your range on desired frequencies and reduce interference from undesired ones. If you use a directional antenna, such as a yagi, you will be able to select a particular target location to investigate and eliminate interference from another location. The second technique is using filters. Using filters will block out undesired frequency ranges and pass desired

ones. An FM Broadcast band notch filter is very useful. Optoelectronics sells the N100, which I recommend. FM broadcasters are a major source of undesired interference and having one nearby will cause your counter to lock up on the broadcast station's frequency.

By using these techniques, you will find the frequencies you desire. How quickly you find a frequency depends on your skill as a SIGINT hobbyist and how much the target uses their radios. You can acquire a target such as a mall security force in as little as thirty seconds. This was how long I had to loiter near a help desk with a frequency counter before a security officer keyed up a radio. Some of the less active federal agencies can take a week or two before you can tag them. If you do not find the frequency, there are two possibilities. The first is that your target either does not use radios or uses them very infrequently. I will assume that your target does indeed use radio communications. The only solution to tagging an infrequent radio user is persistence and patience. Eventually they will key up and you will have their frequency. The second possibility is that you found their frequency, but failed to identify it properly. Learn who operates in what frequency ranges. Listen to what you have found during previous SIGINT attempts over a period of time to determine who it is you have found. My SIGINT experiences have taught me that sometimes the true nature of the parties using a frequency may take a while to become apparent. Certain users use encrypted or spread spectrum (frequency hopping) communications. Receiving spread spectrum communications is at this time beyond the ability of the average hobbyist. As I write this, I can hear some of my friends telling me "Lets not go there." A little birdie told me, however, that a certain radio hobbyist organization in Connecticut publishes an excellent introductory-level technical text. Encrypted communications not only present a similar technical difficulty, but are also illegal to listen to under the Electronic Communications Privacy Act. Encrypted communications system users will sometimes have equipment difficulties and operate in the clear. A patient listener will wait for this opportunity.

I find the thrill of exploring the airwaves to see what I can find to be one of the more enjoyable aspects of my monitoring hobby. There are so many different users of the radio spectrum, spanning a broad range of operations, that it's impossible to become bored. Every time I activate the search function on my scanner, I seem to discover something new. I hope that this article will let you share the thrill of this exploration. If I receive adequate feedback, I will write an article on more advanced SIGINT techniques.

Thanks go to Roger Cravens for his assistance with this article.

73, Tom

USSN

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FEATURE ARTICLE

Fleet Monitoring Systems

Auto–Trac and Cell–Trac Explained.

by Ed Muro

Do you remember the original Batman television series? I remember a couple of episodes where Robin went out alone in the Batmobile and got into trouble. Then there was an episode where the Batmobile was stolen. Batman, and his trusty butler Alfred, turned on the Bat-homing device to track down the Batmobile. It looked like a small television screen with an outline of a map. There was a red blip on the screen that portrayed the Batmobile. In the sixties this was pure fiction. Not so today!

Over the last few years, the Global Positioning System (GPS), originally designed and installed by the Department of Defense, has opened up a whole new array of commercial applications. The GPS system consists of 21 satellites and three spares providing around-the-clock navigational data globally. And from E-Systems Corporation comes...AUTO-TRAC. Auto-Trac is the most advanced fleet locating system on the market today. The system can be employed by Police, Fire, and EMS departments anywhere, as well as commercial users, to keep exact tabs on their vehicles. This will improve both safety and efficiency.

The Fleetservice System is comprised of several sub-systems, each having its own task and functions. The Fleetservice Control Center is the hub of the system. The system consists of two computers which provide a work station for all communications and mapping of vehicle locations. Each vehicle is equipped with a vehicle tracking unit which gathers satellite information along with vehicle ID and status provided by the driver (or vehicle) and sends it through a communications link. The Auto-Trac system has several product designs which allow you to use a wide variety of communications links that are available today, including two-way radio, cellular network, and communications satellites.

Communications and control are key factors in the Fleetservice Control Center. The two computers provide fast and reliable information to dispatchers. All communications to and from the vehicles are controlled by Auto-Trac's Communications Controller. The Controller can change parameters and status of the vehicle tracking unit, allowing the dispatcher complete control over reporting intervals, alarms, and data messages. All information from the vehicle tracking unit is sent to the Controller to be immediately processed and then passed to the Fleetservice Mapping Computer where digitized maps of the monitoring region are displayed. The mapping computer has up to four monitors per computer, allowing for different geographic views of the monitoring region. Speed, bearing, status, vehicle ID, and vehicle locations are all displayed clearly for each vehicle and logged for future analysis. The mapping computer can pinpoint a vehicle's location within 5 to 10 meters. Digitized street level maps are available for the entire United States and other locales.

The Vehicle Tracking Unit is designed to accommodate many different options. These include Mobile Data Terminals (MDT's), Panic Alarm switch-

Auto–Trac Control Station

es and other items such as light-bar activations, tractor-trailer uncoupling, tow boom operation, and many more.

What Types of Applications Are In Use?

Police use Fleetservice to ensure officer safety and to improve response time by knowing the exact location the closest vehicle to the scene of an emergency. The same holds true for fire departments and ambulance companies. The computer can even estimate the time of arrival at a hospital.

In commercial applications, dispatchers can increase their efficiency in routing delivery vehicles. Delivery drivers can also inform dispatch of delivery and pickup details. Driver security can be improved by the use of an emergency button that notifies the control center of the situation and the location of the vehicle; this is an invaluable option for armored vehicle companies.

Who Benefits From This System?

We all do. In Public Safety applications, efficient dispatching can save lives. In commercial uses, money that is saved by providing an efficient system is passed down to the consumer.

Cell-Trac: Another Alternative

Across town or across the country, fleets can now be tracked utilizing the cellular network. There is no need to invest in expensive radio equipment, pay for tower rental, or wait for available frequencies. Over 90% of the United States population has cellular service, allowing Cell-Trac to locate vehicles in almost any city and on most highways. This system is ideal for tracking vehicles that travel a large geographic area, such as over-the-road trucks, regional—delivery or maintenance vehicles, tour busses, and rental vehicles. Cell-Trac offers a vehicle tracking solution for areas where radio frequencies are not available or do not extend over the area to be monitored. Cell-Trac will help protect personnel and cargo, secure vehicles, improve customer service, reduce operating costs, and improve overall fleet performance.

Cell-Trac transmits information such as longitude and latitude, time, speed, and direction of a vehicle, to a control center where it is updated on digitized street level maps as frequently as once per second. An optional panic button can be activated in an emergency situation, even when the driver is away from the vehicle, with an optional RF transmitter.

As you can see, this wonderful technology is here to stay, helping our public safety agencies, as well as improving the productivity of industry. **USSN**

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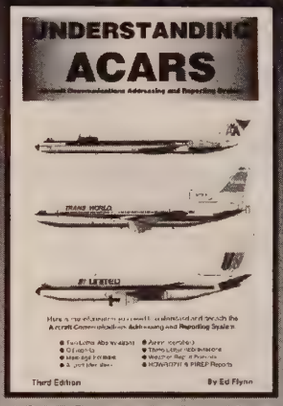

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THE OTHER HALF

"Freaking," What Does it Really Mean?

Is Comet a Cleanser? Men and Women See It Differently.

by Janet Cravens

I've been doing a lot of thinking lately about terminology and how words are used that really have a different meaning. I've also been wondering what Noah Webster thought he was doing when he wrote the first dictionary and came up with the definitions of words. Seems like to me, we may all use the same words, but we use them differently throughout our lives.

Men and women think of things with a wide difference in the meaning of the words. One of the words I'm thinking of is freaking. According to the dictionary, the word freak can be used as a noun to define "a sudden and apparently causeless change or turn of events, the mind, etc." It can also be used as an adjective meaning "unusual, odd, or irregular." When I think of the word, I think of it as an adjective to describe any other word which at the time may be undescribable. For example, when my oldest son took a BB gun and shot a hole in the screen of the television, I freaking couldn't believe it! When he rebels at doing his chores because he thinks they're stupid, I become freaking agitated. When he works on the car or other mechanical device and gets grease and oil all over his new dress clothes, I get freaking outraged. When my youngest son doesn't clean his room for weeks and months at a time and the cat gets lost in the clutter, I become freaking impossible to live with. When no one listens to me and starts taking me for granted, I become freaking hostile.

Roger, on the other hand, often goes "freq'ing" (pronounced the same as freaking) for what he calls his signals intelligence collection. To do this, he makes sure I have a whole list of things I want done, forgets the fact that you can't see the front porch because the grass is so high, and slips out of the house quickly while I'm in the shower. He takes both his portable and desktop radios, his frequency counter, his latest list of all the frequencies he has identified, "Police Call Plus," and "Monitor America." He takes enough money to buy a soda on the way home and usually takes a full glass of soda with him when he leaves. He drives somewhere close to the sight where he wants to pick up signals, parks, sits in the dark, listening to the radios, watching the frequency counter as it picks up new frequencies and sits there trying to be inconspicuous while he does it. I'm really going to have to sneak up on him sometime and take a picture for you - you'll never believe it, otherwise.

Want to know where he goes "freq'ing" so often? He goes uptown, across the street from the fire department, next door to the National Guard Armory and the Sheriff's office and sits in his little truck in the empty church parking lot for several hours on Saturday night. I still haven't figured out how he thinks he's inconspicuous sitting in the church parking lot, all alone, late at night. He's really lucky he hasn't been arrested for something before now. To me, the real story here is why he calls this "signals intelligence," when it seems to be a lesson in futility and stupidity instead.

Some of the other words we discuss around our house are simple militaristic terms. Roger went to high school at a military academy, was drafted straight out of high school and was in VietNam before his 19th birthday on his first tour. He stayed in for 16 years before he decided to try his hand at something else. But getting used to the military terminology then is almost as bad as trying to understand the "freaking" now. For example, when he came home from a hard day's work and insisted he needed some R & R, I immediately got into the car and went to the store to look for some. I asked at the store if they had any R & R, but they said the closest they could get was M & M's. It took me years to figure out why he laughed so hard that night; nobody ever published a book on how to talk to your military spouse. (By the way, for those of you unfamiliar with the military, R & R is Rest and Relaxation!)

One day he called to tell me he'd be home late from work because they were having a G.I. party. We hadn't been there very long and I was upset because the wives weren't invited. I thought the least he could do after moving halfway across the United States was to take me to all the parties he was invited to. Took several weeks of not speaking to him for him to figure out I was upset about not being invited to the G.I. party. That's when he informed me that it was not a real party, that's just the terminology that is used to indicate cleaning the areas for an inspection. We women call that "spring cleaning"; how was I to understand what he meant?

Times were rough and money was hard to come by, so I really got upset when he told me he was going to the "field" for two weeks and would be eating sea rations while he was gone. I was very wounded to think that he was having seafood while I was sitting at home eating a chicken pot pie that I bought for a quarter. You should have seen my amazement when he returned from the field with some of his "C" rations. They were not

seafood, as I had imagined, but small packages of dehydrated food that you "cooked" using boiling hot water. The first time I saw a dehydrated pork chop, it didn't appear to be much bigger than a silver dollar. After he put it into some water, the pork chop grew just like a sponge does when you put it into water. That was the last time I was jealous of "sea rations".

Imagine my surprise when I overheard Roger talking to his friend about comet. I've been bugging him for weeks to clean the bathtub because I can't clean it since the accident. I was thrilled to hear him telling his friend he was about to clean the bathtub. I ran in and got out new towels; I was so excited. I was going to sit there and watch. I just love to take a bath in a freshly scrubbed tub.

Imagine my displeasure when I discovered he was not talking about cleaning the bathroom at all. He was talking about this new COMET antenna he purchased for his truck, which is helping him pick up more signals on his ham radio. The rest of the sad news is now I have to have one just like it on my van (just in case he ever decides to ride in it with me again). I don't know if he'll ever go anywhere with me again - I tried to talk him into a daytrip to Dahlonega, Georgia, where our youngest son wants to go pan for gold. He said he'd go with us as long as he could take his truck. Personally, I think he's going a little overboard in this respect.

Several weeks ago, Roger's Bearcat 200XLT scanner seemed to "bite the dust." Thank God I renewed his extended warranty in January. He told me I needed to find the warranty extension invoice so he could figure out what he needed to do in order to get it fixed. I don't know about all of you, but I am constantly losing things. So I think "hmm, I know I'll need this again, I'll put it somewhere where I know I can find it when I need it." The problem is I always forget where I put it and can't find it again! I spent several afternoons going through my desk, all my files, and everything else I could find, to no avail. I couldn't find the invoice anywhere. By this time, Roger has decided he has to constantly remind me of the need to have his radio fixed, so every time I would get up out of bed to go to the bathroom, the scanner would be laying in the bed on my pillow when I returned. Then it got so bad, it started showing up in my chair, both at my desk and the dinner table. I finally got it across to him that I didn't need these constant reminders to get the stupid radio fixed. He's lucky I didn't just sit down on it and break it some more!

I have this problem with vacuum cleaner bags, too. At one time, I had four packages of vacuum cleaner bags because I was always putting them up and couldn't remember where I put them. The strange thing was that each time I would try to make sure I knew exactly where I put them - only to end up putting them in the same place where I had the last time. I may not ever need any more vacuum cleaner bags.

Since the Bearcat was going to have to go to the shop, he started taking his desktop with him. I mentioned in a previous article how he exercised so much bending over to unplug his radio each morning. After about a week of this, he decided he really needed to have a mobile scanner in the truck, that way he wouldn't have to keep carrying the radios back and forth.

I agreed and managed to make sure the budget could stand another purchase. He told me the scanners were on sale and he would be able to purchase one for $100. I didn't have a problem with that - although I know some people who would. But the strangest thing happened. He went to Radio Shack on Easter Sunday to buy his new radio. Unfortunately, they were closed in order to spend the day with their families. The next day he went to Radio Shack on his lunch hour and purchased the radio. I needed to pick up a few things from the store later, so I called to see how much the check was so I could subtract it from the checkbook. He goes into this big rigmarole of how he had purchased it in another county because the tax was cheaper on that side of town. Then he tells me the check was $157. I, being the logical thinker that I am, could care less about the taxes he saved when he spent $57 more dollars to save me $1.57 in taxes. I don't know, guys, sometimes it gets scary around this place!

I feel I must admit I listen to the scanner sometimes. Of course, only because it's on his side of the bed and I don't want to walk over there and turn it off. But again, this past month, I found it very useful. I was lying in bed resting, when all of a sudden I heard another emergency call to my sister's house. She was at work, but my nephew came home from school and found his father lying unconscious in the driveway. He carried him into the house and called 911. Unfortunately, once you call 911, they won't let you off the phone until the ambulance arrives. I called my dad and sent him to my sister's house, then called my sister at work and told her she needed to go home. I really wasn't sure she wanted to hear from me, but I thought if she had heard something like that about my husband, I'd definitely want to know.

Had plenty of police activity this month. Seems that lots of people have decided to try and outrun the police in high speed chases. Unfortunately for the criminal, we have an outstanding Police Department, Sheriff's Office, and the Georgia State Patrol, when necessary. As you know, Atlanta is the "Olympic" city this year; once all the traffic around here hits the Interstates, there really won't be many places to have a high speed chase.

All things considered, life has been quiet here in the Craven household. Spring is sprung, grass is beginning to come up and it won't be long before Roger can take his scanner outside, start the riding lawn mower and pretend he's in a high speed chase while he cuts the grass. It ain't brain surgery, after all! **USSN**

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TRANSPORTATION

Utah, the Beehive State

Utah Has an Average Elevation of 6,100 Feet. Home of The Great Salt Lake and Zion National Park, Utah is Unrivaled in its Beauty.

by Roger West

The State of Utah is centrally located in the Rocky Mountain region, midway between Canada and Mexico. The Beehive State is bordered by Wyoming on the northeast, Colorado on the east, Arizona on the south, Nevada on the west, and Idaho on the north. Utah is the 11th largest state and the 3rd highest state, with an average elevation of 6,100 feet. Utah was settled by Mormon pioneers fleeing persecution in Illinois. Utah now has a population that is more than two-thirds Mormon. The state derives its name from the Ute Indians, who live in the Uinta Basin southeast of the capital, Salt Lake City.

The spine of the Rocky Mountains runs down the middle of Utah, with the Colorado Plateau to the east and the Great Basin to the west. The part of the Rocky Mountains keeping to the main north-south axis is called the Wasatch Range. The Uinta Mountains, extending more than 100 miles just below the Utah-Wyoming border, represent the longest east-west-trending range in the United States. Kings Peak, which lies within the Wasatch Range, is the highest peak in Utah (13,528 feet).

During its geologic history the Colorado Plateau gradually uplifted, causing the Colorado River and its tributaries to cut deep canyons and expose rock layers varying in color from white to orange, pink, and red. The Great Basin is the third largest region of interior drainage in the world, encompassing steep mountain ranges separated by broad desert flats. Eastern Utah drains into the Colorado River and its branches, some of the major ones being the Green and the San Juan Rivers. Several streams in the western part of Utah, such as the Jordan, Bear, Provo, Sevier, and Weber, flow into the Great Basin. The Raft River, which is located in the extreme northwestern corner of Utah, drains into the Snake River.

Transportation-wise, Utah is advantageously located on three Interstate highways. Interstate 15 crosses the state from north to south, and Interstate 80 and Interstate 70 cross from east to west. Railroad service is provided to Utah by several rail freight lines. Major railroads in Utah are the Union Pacific and the Denver and Rio Grande Western. Amtrak provides the passenger service to Utah, and Salt Lake City International Airport, which is the busiest airport in Utah, is within 2 hours of every western city in the United States.

The Golden Spike National Historic Site at Promontory, Utah (171.675 MHz), commemorates the joining on May 10, 1869, of the Union Pacific Railroad from the east and the Central Pacific Railroad from the west to complete the nation's first transcontinental railroad. Each year several million tourists visit the Beehive State's Bryce Canyon National Park (168.575 and 169.550) and Zion National Park (166.325 and 166.925) as well as Arches (166.325 and 166.925), Canyonlands (168.575 and 169.550), and Capital Reff (168.575 and 169.550) National Parks, various national monuments, and Utah's many state parks.

Salt Lake City is the capital and largest city in Utah, and is the county seat of Salt Lake County. It is located in the north central part of the state on the Jordan River, near The Great Salt Lake. More than 60% of the Beehive State's people live within the Salt Lake City metropolitan area. The city is set in a high desert valley, surrounded by the peaks of the Wasatch and Oquirrh Mountains. The city serves as processing point for the region's mineral and agricultural products. Salt Lake City is a major electronics center and also has defense industries, and is the hub of the central transcontinental highway system.

Salt Lake City is the world headquarters of the Church of Jesus Christ of Later-day Saints. In the center of the city stand the massive Mormon Temple and the Mormon Tabernacle. Salt Lake City is the home of the University of Utah and Westminster College, and is the host city of the Utah State Fair, which is held each year in September.

The Great Salt Lake, which is a shallow, saline inland sea, lies in northwestern Utah between the Wasatch Mountains and the Great Salt Lake Desert to the west. Always subject to significant fluctuations, the lake's area grew from 1,640 square miles in 1982 to 2,450 square miles in 1986. In June, 1986 it reached a record high of

4,211.65 feet above sea level. By that time the encroaching lake had destroyed farmland on the eastern side and threatened bird sanctuaries. Beginning in April 1987, with the completion of the $60 Million West Desert project, lake water was pumped westward to create an evaporation pond on the Bonneville Salt Flats. Although it receives fresh water from the Bear, Jordan, and Weber Rivers, the lake has no outlet and is highly saline. Table salt, which constitutes three-quarters of its mineral salts, has been harvested for years.

The high salt concentration precludes most marine life except for colonial algae and brine shrimp. Many birds, however, including gulls, pelicans, blue herons, cormorants, and terns, nest on the lake's islets. Lucin Cutoff traverses the lake, connecting the towns of Lucin and Odgen by rail.

Provo is located in north central Utah and the seat of Utah County, is approximately 40 miles southeast of Salt Lake City on the Provo River. Provo's industries manufacture steel, iron, and metal products, and the city is also a marketing and distribution center for the area's farms and mines. Provo is the home to Brigham Young University.

Ogden is located in the fertile front of the Wasatch Range at the confluence of the Weber and Ogden Rivers, and is the county seat of Weber County. Ogden is best know for its aerospace facilities, but its industries produce building materials and processed foods. The Ogden Defense Depot (163.5625 & 165.0625 MHz) and nearby Hill Air Force Base contribute to the city's economy, as do numerous ski resorts. The city is home to the site of Weber State College and a Mormon tabernacle.

Brigham City is located at the foot of Wasatch Range and is the seat of Box Elder County. Brigham City's leading industry is the processing of food staples grown on the surrounding irrigated farmland.

By Air

(all times shown are Mountain Standard Time)

SALT LAKE CITY MUNI. AIRPORT #2, SALT LAKE CITY

[AVIATION UNIT OF THE UTAH NATIONAL GUARD]

REMARKS- Attended 7 am - 10 pm.
- Utah National Guard hours of operation 7:15 am - 3 pm, and prior permission required for Fridays, Saturdays, and Sundays.
PILOT ALERTS. ** Parachute Jumping/Skydiving in vicinity of airport.
** Flocks of birds on and in vicinity of airport.

CTAF/UNICOM	122.700	
Appr/Dep	120.200	322.300
	124.300	
Clearance	127.000	
Utah National		
Guard Operations	49.65fm	243.800
	143.200	

SALT LAKE CITY INTERNATIONAL AIRPORT AND HELIPADS, SALT LAKE CITY

[151st AIR REFUELING GROUP and the 191st AIR REFUELING SQUADRON of the UTAH AIR NATIONAL GUARD]

AIRFIELD OPERATIONS:
REMARKS- Attended continuously.
- Utah Air National Guard hours of operation 7 am - 4:45 pm Monday - Thursday, except holidays.
- Army reserve hours of operation 6:30 am - 3 pm Monday -Friday, except Federal Holidays.
PILOT ALERTS. ** Flocks of birds on and in vicinity of airport.
** Helipads 1 - 4 are located on general aviation side of airfield, and helipads 5 and 6 are located air carrier side of airfield.
** All pilots monitor Utah Control on 303.000.
** Parachute Jumping/Skydiving in vicinity of airport.
SPECIAL NOTICE. ** Salt Lake City Center, tower, and approach control are authorized to eliminate the word "city" as part of the facility identification in communications over air traffic control frequencies.

UNICOM	122.950	
ATIS	124.750	
	127.625	
FSS	122.400	
Appr/Dep	135.500	307.050
	124.300	353.600
	128.100	
	126.250	
Tower	132.650	362.300
	119.050	
	118.300	
Ground	121.650	348.600
	121.9	
Clearance	127.300	387.100
Utah Air National		
Guard Operations	303.000	
	311.000	
Army reserve operations	32.90 fm	
Air Refueling Route		
# 3L (F-1)		235.100
# 3L (F-2)		319.500
# 648 A&B (F-1)		238.900
# 648 A&B (F-2)		319.500
National guard operations	48.80fm	

GROUND OPERATIONS:

Security	149.475	
	164.500	
Fire Department/Crash Crews		149.325

OGDEN-HINCKLEY AIRPORT, OGDEN

REMARKS- Attended continuously.
PILOT ALERTS. ** Tall trees in vicinity of airport.
** Parachute Jumping/Skydiving over airport between Runways 21 & 25.
** Flocks of birds on and in vicinity of airport.
** No Snow removal after tower closes.
** Be alert that parking lot lights off the approach end of of Runway 34 can be confused for runway lights.

CTAF	118.700	
UNICOM	122.950	
ATIS	125.550	
FSS	122.100	
Appr/Dep	121.100	301.500
Tower	118.700	324.100
(Tower operations 7 am - 8 pm)		
Ground	121.700	

PROVO MUNI. AIRPORT, PROVO

REMARKS - Attended 7 am - 7 pm.

AWOS-3 (weather)	135.175	
CTAF/UNICOM	122.800	
Appr	124.300	322.300
Dep	118.850	

DUGWAY PROVING GROUND

APPROXIMATELY 75 MILES
SOUTHWEST OF SALT LAKE CITY
[MICHAEL ARMY AIRFIELD]
MICHAEL ARMY AIRFIELD OPERATIONS:
REMARKS- Attended 7 am - 5:30 pm Monday - Thursday, and closed Friday - Sunday and holidays.
PILOT ALERTS. Wild animals on and in vicinity of airfield.
** Helicopter operations on and in vicinity of airfield.

CTAF	126.200	
Clover Control	134.100	301.700
Fire Station	126.200	248.200
Range control	36.10 fm	
Range operations		345.950 (NBFM)
		349.850 (NBFM)

HILL AIR FORCE BASE, APPROXIMATELY

10 MILES SOUTHWEST OF OGDEN
[388th FIGHTER WING; 40th RESCUE SQUADRON; AIR LOGISTICS CENTER; 6545th TEST GROUP; 466th FIGHTER SQUADRON and the 419th FIGHTER WING of the AIR FORCE RESERVE; 729th TACTICAL CONTROL SQUADRON]
AIRFIELD OPERATIONS:
REMARKS- Attended continuously.
- Transit aircraft operations from 6 am - 10 pm.
PILOT ALERTS. ** Heavy airline and civilian aircraft traffic on approach and departure.
** Strict adherence to Air Traffic Control altitude and heading mandatory.
** Noise abatement area.....STRICT ADHERENCE required.
** All aircraft inbound with VIP's aboard must contact base operations on 173.4375 or Hill Command Post on 381.300 ("Raymond 23") when 30 minutes out.

SFA/PTD	122.850	372.200
ATIS		396.000
Appr	121.100	290.300
	124.900	301.500
	126.000	307.200
	126.800	316.700
	135.500	381.200
		389.800
Dep	121.100	290.300
	124.900	301.500
	126.800	381.200
Tower	127.150	236.600
		289.600
Ground	121.600	275.800
Clearance	124.100	335.800
419th Fighter Wing Operations (operations 8 am - 4 pm Monday - Saturday		252.100
Hill Command Post (TAC: "Raymond 23", others "Convoy")		381.300
METRO (weather)		375.200
Operations (brace)		266.800
Range control	139.600	353.000
Tactical (air)	34.15	254.400
	40.15	254.400
Clover Range Operations		311.000
	134.000	339.000
Sevier Range Operations		233.400
	134.100	301.700
Air Intercepts		286.250
Bomb Range Operations		266.300
Air-to-Air Refueling Routes		
#642E (F-1)		305.500
#642E (F-2)		319.500
National Guard Helicopters	48.48 FM	
GROUND OPERATIONS:		
REMARKS- Operations 6 am - 10 pm.		
Crew Alerts	413.450	
Security	149.165	
	149.265	
	163.4625	
	163.6500	
Medics	149.565	
Disaster Operations	163.5875	
Maintenance	40.64	
Fire Department/ Crash Crews/Trucks	148.475	

SKYPARK AIRPORT, BOUNTIFUL
REMARKS- Attended 8 am - 5:30 pm.

CTAF/UNICON	122.800

BRIGHAM CITY AIRPORT, BRIGHAM CITY

REMARKS- Attended Monday-Friday 8 am - 4:30 pm.
PILOT ALERTS. ** Flocks of birds on and in vicinity of airport, mainly in area of approach end of Runway 16.
** Glider operations conducted on the weekends.
RESTRICTIONS. ** No rotor craft operations west of flight line.

AWOS-3 (weather)	135.075	
CTAF/UNICOM	122.800	
Appr/Dep	121.100	301.500

HEBER VALLEY AIRPORT, HEBER VALLEY

REMARKS- Attended 8 am - 5 pm.
PILOT ALERTS. ** Flocks of birds on and in vicinity of airport.

CTAF/UNICOM	122.800

MORGAN COUNTY AIRPORT, MORGAN

REMARKS- Attended Monday - Saturday 8 am - 5 pm.
PILOT ALERTS. ** Tall trees in vicinity of airport.
** Hang gliding activity south side of Runway 03-21.

CTAF	122.800

SPANISH FORK-SPRINGVILLE AIRPORT, SPANISH FORK

REMARKS- Attended Monday - Friday from Dusk to Dawn, and Saturdays from Dawn - Noon.

CTAF	122.900

CARBON COUNTY AIRPORT AND HELIPADS, PRICE

REMARKS- Attended continuously.
PILOT ALERTS. ** Refuse Dump located 1/2 mile southwest of Runway 36 causes an occasional smoke visibility hazard.
** Flocks of birds on and in vicinity of airport and helipads.
** Deer on and in vicinity of airport and helipads.

CTAF/UNICOM	122.800	
FSS	122.100	
Appr/Dep	133.900	370.850

BOLINDER FIELD-TOOELE VALLEY AIRPORT, TOOELE

REMARKS- Attended 9:30 am - 5:30 pm.
PILOT ALERTS. ** Power lines and poles on and in vicinity of airport.

CTAF/UNICOM	123.000

LOGAN-CACHE AIRPORT, LOGAN

REMARKS- Attended 8 am - 7 pm.
PILOT ALERTS. ** Parachute Jumping/Skydiving in vicinity of airport.

CTAF/UNICOM	122.800
FSS	122.200

TREMONTON MUNI. AIRPORT, TREMONTON

REMARKS- Attended Monday - Saturday during Daylight Hours.
PILOT ALERTS. ** Power lines and poles on and in vicinity of airport.

CTAF	122.900

NEPHI MUNI. AIRPORT, NEPHI

REMARKS- Attended continuously.

CTAF/UNICOM	122.800

DUCHESNE MUNI. AIRPORT, DUCHESNE

REMARKS- Attended on call.
PILOT ALERTS. ** Tall trees on and in vicinity of airport.

CTAF/UNICOM	122.800
FSS	122.100

ROOSEVELT MUNI. AIRPORT, ROOSEVELT

REMARKS- Attended on call.

CTAF/UNICOM	122.800
FSS	122.100

VERNAL AIRPORT, VERNAL

REMARKS- Attended Dawn - Dusk.
PILOT ALERTS. ** Tall trees in vicinity of airport.

CTAF/UNICOM	122.700
FSS	122.100

WENDOVER AIRPORT, WENDOVER

REMARKS- Attended 8 am - 5 pm.

AWOS-3 (weather)	135.075
CTAF/UNICOM	122.800
FSS	122.100

QUESTION TO THE READERS? My files show this to be an Air Force auxiliary field. Can any of the readers verify this?
If this is an auxiliary field for the Air Force, try the following frequencies:

Air Force Operations	142.250
	226.000
	233.400

SALT LAKE CITY AIRPORT AUTHORITY, SALT LAKE CITY

Operations

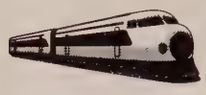
	Mobile/Base
	810.2375/855.2375
	810.4875/855.4875
	812.2375/857.2375
	812.2625/857.2625
	812.4875/857.4875
	813.2375/858.2375
	813.2625/858.2625
	813.4875/858.4875
	814.2375/859.2375
	814.2625/859.2625
	814.4875/859.4875
	815.2375/860.2375
	815.2625/860.2625
	815.4875/860.4875

ROCKY MOUNTAIN HELICOPTERS, INC., PROVO

General operations	30.80
	151.925
	151.955
	461.225
	464.400
	800 MHz
Unicom	123.050

MISC. AVIATION FREQUENCIES, SALT LAKE CITY

United Airlines	460.725
Continental Airlines	460.650
Continental Airlines	460.875
Delta Airlines	460.675
Delta Airlines	460.750
Delta Airlines	460.800
Delta Airlines	460.825
Trans World Airlines	460.675
American West Airlines	464.600
Northwest Airlines	460.700
Skywest Airlines	460.775



By Land

GOLDEN SPIKE NATIONAL HISTORIC SITE AT PROMONTORY

Operations	171.675

UTAH WESTERN RAILROAD AT PLEASANT GROVE

General operations	161.370

UNION PACIFIC RAILROAD AT SALT LAKE CITY

Yard	KVF737	160.230
Yard	KVF737	160.380
Yard	KVF737	160.710
Yard	KVF737	160.800
Yard	KVF737	160.860
Road	KVF737	160.410
Road	KUF737	160.740
?	KVF737	160.455
Road	KOI747	160.470
Road	KVF737	160.515
Road	KVF737	160.680
Railcars	KVF737	160.620
Railcars	KVF737	161.340

UNION PACIFIC RAILROAD AT BRIGHAM CITY

Road	KUQ600	160.410

UNION PACIFIC RAILROAD AT OGDEN

Yard	KOI827	160.230
Yard	KOI827	160.380
Yard	KOI827	160.680
Yard	KOI827	160.800
Yard	KOI827	160.860
Road	KOI827	160.515
?	KOL404	160.350
Railcars	KOI827	160.710
Railcars	KOI827	161.190

UNION PACIFIC RAILROAD AT PROVO

Road	WNHC748	160.515
Road	WZN479	160.860
Road	WZN479	160.740

UNION PACIFIC RAILROAD AT LOGAN

Road	KUQ621	160.410
?	KUQ621	160.605

UNION PACIFIC RAILROAD AT NEPHI

Road	WNWJ875	160.740

DENVER AND RIO GRANDE WESTERN RAILROAD AT SALT LAKE CITY

PBX	KFU573	160.275
PBX	KRW321	160.335
PBX	KFU573	160.395
PBX	KFU573	161.175
PBX	KFU573	161.220
PBX	KFU573	161.235
PBX	KFU573	161.490
Road	KFJ981	160.455
Road	KFJ981	160.920
Road	KFJ981	161.550
Road	KFU573	161.565
Yard	WNJV374	160.635
Yard	WNJV374	160.695
Yard	KFJ981	160.740
Railcars	KFJ981	160.830
Repeater	KFU573	161.415

Systemwide	KVP553	160.980
Maintenance (road)	KFJ981	160.725
Truck operations	KFU573	161.460

DENVER AND RIO GRANDE WESTERN RAILROAD AT PROVO

Road	KOI955	160.455
Road	KOI955	160.920
Maintenance (road)	KOI955	160.725
Yard	KOI955	160.740
Yard	KOI955	160.490
Railcars	KOI955	160.830
PBX	KLD696	161.175
Repeater	KLD696	161.415

LE BUS AT SALT LAKE CITY

General Operations	WPDZ372	452.725/457.725

MISC AT SALT LAKE CITY

Smith Transportation	WNPQ933	152.330
Smith Transportation	WNPQ933	157.590
Black Hills Trucking	WNJI484	44.42
Sun Valley Stages	KNGX411	159.510
Browning Freight Lines	WNLE240	159.780
North Park Transportation	KNJK638	159.960
Yellow Cab Drivers Assoc.	WNZY906	152.270
Yellow Cab Drivers Assoc.	WNZY906	152.315
Ute Cab	KOA492	152.390
Ute Cab	KOA492	157.650
City Cab	WNSB366	157.680
City Cab	WNSB366	152.420
Lewis Brothers Stages	KNIG302	452.350

MISC AT PROVO

Yellow Cab of Provo	WNCT223	152.270
Yellow Cab of Provo	WNCT223	157.530

By Sea

AT SALT LAKE CITY

State of Utah	WHU994	156.425	Comm/Rec/Aero
State of Utah	WHU994	156.450	Comm/Rec

AIR MAIL

My first letter comes from Mike Campbell of the Knoxville, Tennessee area. Mike says that he looks forward to each issue of USSN and enjoys my Transportation Column. Mike asked if I had anything for the Knoxville area.

Thanks for the nice words about my column Mike, and this is what I have for the Knoxville area:

McGHEE-TYSON AIRPORT, 10 MILES SOUTH OF KNOXVILLE

[228th COMBAT COMMUNICATIONS SQUADRON; 151st AIR REFUELING SQUADRON; 134th AIR REFUELING GROUP]
AIRFIELD OPERATIONS:
REMARKS- Attended continuously.
-Air national guard operations 8 am - 4:30 pm Monday - Friday and closed Saturdays, Sundays, and holidays.
-Contact air national guard operations (SODA CON) on 143.800 or 303.000 when 15 minutes out.
-National guard operations 7:30 am - 5 pm Monday - Friday.
PILOT ALERTS. ** Tall trees in vicinity of airport.
** Flocks of birds on and in vicinity of airport.
** Noise abatement area.

UNICOM	122.950	
ATIS (7 AM - 11 PM)	128.350	
FSS	122.200	255.400
	122.300	
	122.100	
Appr/Dep	118.000	360.800
	123.900	353.600
	120.650	
Tower	121.200	257.800
Ground	121.900	348.600
Clearance	121.650	
Air national guard operations (SODA CON)	143.800	303.000
		311.000
National guard operations	49.80fm	313.000
GROUND OPERATIONS:		
Security	163.4875, 163.5375	
Fire Department/Crash Crews	163.5125	

KNOXVILLE DOWNTOWN ISLAND AIRPORT, KNOXVILLE

REMARKS- Attended Dusk - Dawn.
PILOT ALERTS. ** Tall trees in vicinity of airport.
** Flocks of geese on and in vicinity of airport.

AWOS-3 (weather)	125.375	
CTAF	126.600	
Appr/Dep	123.900	353.600
Clearance	121.700	

POWELL STOLPORT, KNOXVILLE

REMARKS- Attended irregularly.
PILOT ALERTS. ** Tall trees in vicinity of airport.
** Runway 23 has an interstate highway and ramp within 100' of pavement.

CTAF/UNICOM	122.800

UNIVERSITY OF TENNESSEE HOSPITAL HELIPORT, KNOXVILLE

REMARKS- Attended continuously.
PILOT ALERTS. ** Power lines and poles located to the North of helipad.

CTAF	123.025

GATLINBURG-PIEGON FORCE AIRPORT, SEVIERVILLE

REMARKS- Attended daylight hours.
PILOT ALERTS. ** Tall trees in vicinity of airport.

AWOS-3 (weather)	126.875	
CTAF/UNICOM	123.000	
Appr/Dep	132.800	360.800

MOORE-MURRELL AIRPORT, MORRISTOWN

REMARKS- Attended 7 am - Dusk.
PILOT ALERTS. ** Tall trees in vicinity of airport.

AWOS-3 (weather)	126.725	
CTAF/UNICOM	122.800	
Appr/Dep	132.800	360.800

SCOTT MUNI. AIRPORT, ONEIDA

REMARKS- Attended Monday - Saturday 8:30 am - Dusk, and Sundays 12:30 pm - Dusk.
PILOT ALERTS. ** Tall trees in vicinity of airport.

AWOS-3 (weather)	135.025	
CTAF/UNICOM	122.800	
Appr/Dep	121.325	246.000

McMINN COUNTY AIRPORT, ATHENS

REMARKS- Attended 8:30 am - Dusk.
PILOT ALERTS. ** Tall trees in vicinity of airport.

AWOS-3 (weather)	125.425	
CTAF/UNICOM	122.800	
Appr/Dep	123.900	353.600

CROSSVILLE MEMORIAL AIRPORT, CROSSVILLE

REMARKS- Attended 9 am - Dark.
PILOT ALERTS. ** Tall trees in vicinity of airport.

CTAF/UNICOM	122.700	
FSS	122.200	255.400
	122.500	
	123.600	
Appr/Dep	133.600	254.300

CAMPBELL COUNTY AIRPORT, JACKSBORO

REMARKS- Attended 9 am - 5 pm Monday - Saturday.
PILOT ALERTS. ** Tall trees in vicinity of airport.

AWOS-3 (weather)	124.975	
CTAF/UNICOM	122.800	
Appr/Dep	133.600	254.300

MONROE COUNTY AIRPORT, MADISONVILLE

REMARKS- Attended during daylight hours.
PILOT ALERTS. ** Tall trees in vicinity of airport.

CTAF/UNICOM	123.000	
Appr/Dep	123.900	353.600

NEW TAZWELL MUNI. AIRPORT, TAZEWILL

REMARKS- Unattended.
PILOT ALERTS. ** Tall trees in vicinity of airport.

CTAF	122.900	

U.S. ATOMIC ENERGY COMMISSION, OAK RIDGE

Aircraft operations	123.050	239.400
		257.000
Medics	155.340	
General operations	27.545	
	27.555	
	41.61	
	163.175	
	163.925	
	173.6125	
	407.175	

TENNESSEE VALLEY AUTHORITY, SPRING CITY

Aero operations	121.9625	
Railroad operations	166.275	
General operations	464.675	

NORFOLK SOUTHERN RAILROAD, KNOXVILLE

Dispatch	KCS709	160.245
Dispatch	KFU605	160.830
Railcars	KAW753	160.365
Yard	KFU605	160.775
Yard	KIF306	160.590
Yard	WNHG511	160.920
Yard	KFU605	161.250
Yard	KFU605	161.475
Road	KCS709	160.950

Roger's note: This is what I have for the Knoxville Area, if any of our readers can help Mike out, please write to me at: Roger West, PO Box 291, Amery, WI. 54001-0291, and I will forward all information on to Mike.

My next letter comes from Mike Dillon of Louisville, Nebraska. Mike stated in his letter that recently when he drove by Offutt Air Force Base, which is near his home, he noticed that there are a lot of RG185's there, along with the E-4's. The other news is that they are going to move the Strategic Air Command Museum to a new location near Mahonie Park, which is by Interstate 80 going into Omaha, Nebraska from the west. They are claiming the aircraft are being vandalized and weathered to death. Mike went on to say that he doesn't like to see this move happen, as the children will no longer be able to walk up to the aircraft and touch them.

Well, that will bring another issue of the Transportation Column to a close. I hope to hear from more of the readers soon!

73's, Roger

CREDITS:
DOD VHF Publication
DOD IFR Publication
Airport/Facility Directory
DoD Military Training Routes Publication
My Data Files
FAA Data Files
Mike Campbell, Knoxville, KY Area
Mike Dillon, Louisville, NB

USSN

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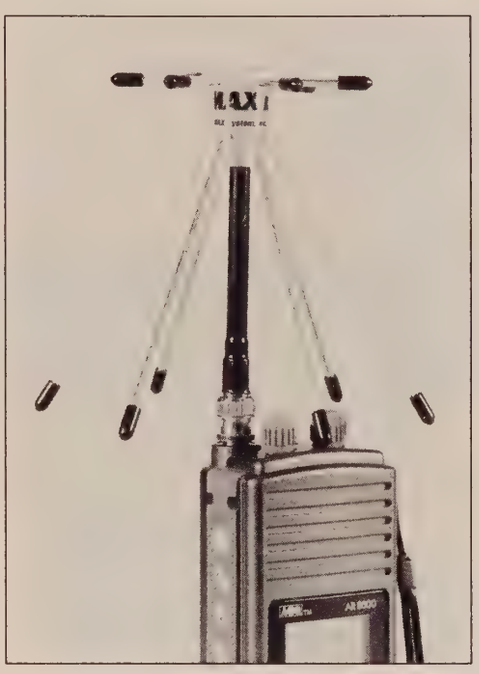
PRESS RELEASES

Enhanced Reception Above 800 MHz

Voice and data communications above 800 MHz are growing explosively, providing a hotbed of activity to monitor. The new generation of scanning receivers enable listeners to sample the excitement found in the high UHF to low microwave band, however, the antennas used are not optimized for such high frequencies. An effective antenna must be resonant across the entire range and no rubber duck or whip antenna is. A new antenna designed to satisfy this requirement is the MAX System Discone.

Whip and rubber duck antennas are resonant at a single frequency, typically around 150 MHz. When used above 800 MHz, these antennas are too long. When an antenna is too long, weak signals become intermittent or are missed entirely. The MAX System Discone overcomes this problem.

The Discone antenna exhibits a uniform pattern over a wide frequency range...up several times its lowest frequency. The new MAX System Discone provides enhanced reception all the way from 800 MHz to 3 GHz. Its clean, uniform reception pattern ensures reliable reception.



The new MAX System Discone with BNC connector replaces the stock whip or rubber duck antennas. Order from dealers or directly from Max System Antennas, 4 Gerring Road, Gloucester, MA 01930. Phone: 508-281-8892

The suggested retail price is $49.95.

Memphis Selects First Public Safety Digital Two Way Radio System

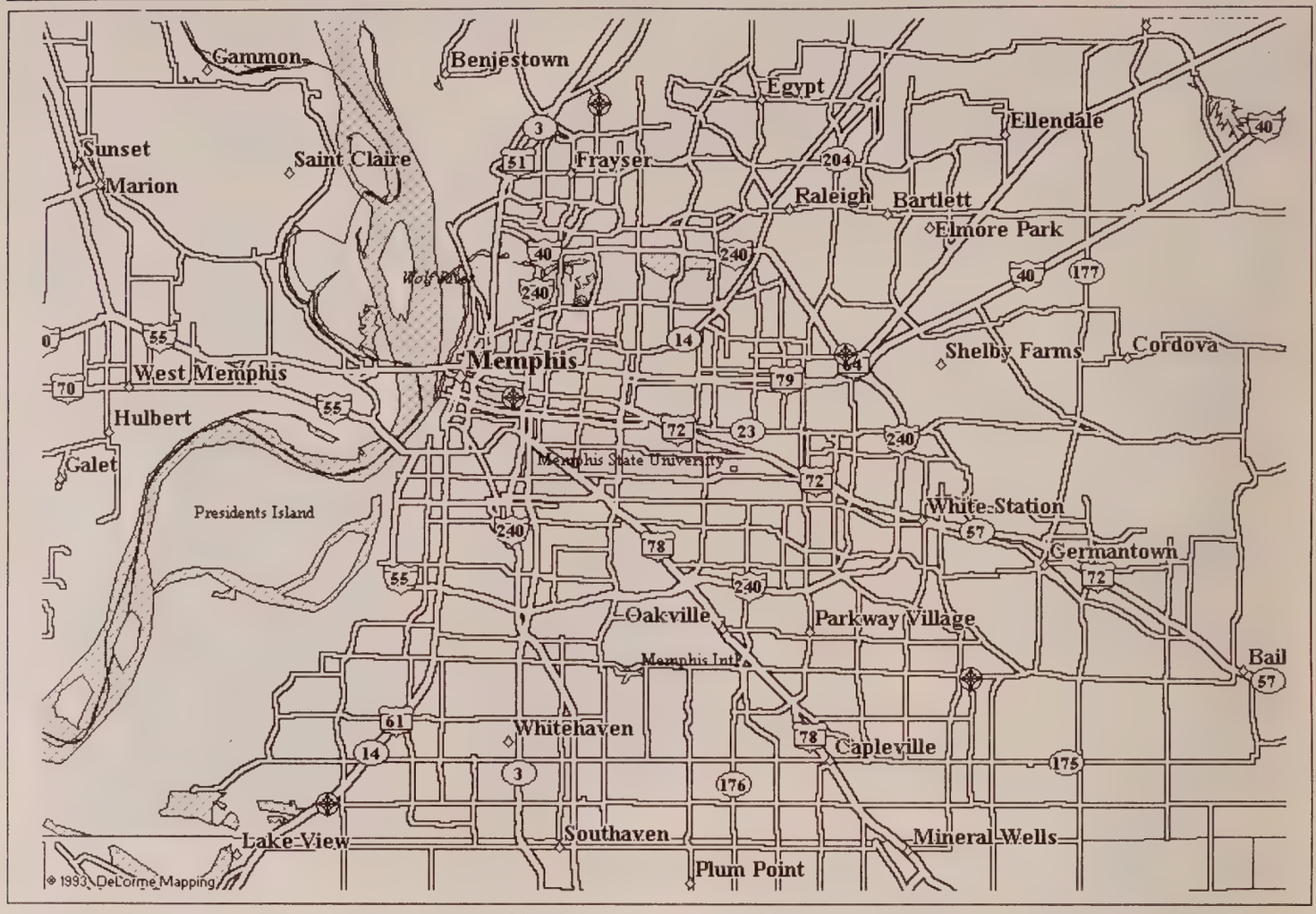
The following frequencies were from the FCC Database as new licenses to the City of Memphis. The YP is the class designator for Trunked Police and Fire and the FB2C is for a mobile relay (repeater) under construction.

There are five sites licensed and if you look at the map of Memphis (next page) you will note a symbol just above Lake View, in the lower left hand corner. This represents the location of one of the sites. There are also sites located near Frayser, Shelby Farms, Parkway Village and downtown Memphis.

Since this will be a Motorola ASTRO™ System, it will be digital and will not be a clear voice system. This means that the voice traffic will be encoded just like the music on a CD. It is possible to make a decoder for this type of signal from off-the-shelf parts, though.

This system will also be a SmartZone™ wide area coverage system simulcasting from each of the five sites. There will also be fill-in, five–channel trunks added to the system as it is built. However, at this time their licensing does not reflect their locations. Watch the FCC pending column in U.S. Scanner News for additional licenses for the city of Memphis. (See the Motorola press release on the next page.)

855.46250 YP FB2C	858.71250 YP FB2C
856.23750 YP FB2C	858.93750 YP FB2C
856.43750 YP FB2C	858.96250 YP FB2C
856.46250 YP FB2C	859.23750 YP FB2C
856.71250 YP FB2C	859.43750 YP FB2C
856.93750 YP FB2C	859.46250 YP FB2C
856.96250 YP FB2C	859.71250 YP FB2C
857.23750 YP FB2C	859.93750 YP FB2C
857.43750 YP FB2C	859.96250 YP FB2C
857.46250 YP FB2C	860.23750 YP FB2C
857.71250 YP FB2C	860.43750 YP FB2C
857.93750 YP FB2C	860.46250 YP FB2C
857.96250 YP FB2C	860.71250 YP FB2C
858.23750 YP FB2C	860.93750 YP FB2C
858.43750 YP FB2C	860.96250 YP FB2C
858.46250 YP FB2C	



Memphis, Tennessee Map

Motorola Press Release

The City of Memphis has awarded a $22 million contract to Motorola's Land Mobile Products Sector for the first ASTRO™ digital 800 MHz, multi-site, two-way radio and digital microwave communications system designed for public safety, in the state of Tennessee.

In making the award, Dr. W. W. Herenton, Mayor, stated, "We believe the City of Memphis has clearly reaffirmed its leadership role in protecting our citizens and public safety personnel. This new radio communications system will help us to insure their safety today, while providing the ability to accommodate future needs of our City and those of surrounding communities for decades to come."

The 31 channel communications system is based on Motorola's SmartZone™ trunked, wide area coverage design. Sixteen radio channels will be dedicated to law enforcement communications, and the other 15 channels will be assigned to firefighting services plus other City agencies, in an area extending over 410 square miles.

The system will also be compatible with existing Motorola 800 MHz trunking systems in the region, including Memphis Light, Gas and Water, the Memphis International Airport, the City of Bartlett, plus Desoto County, Mississippi, the Arkansas State Police and Federal Express.

The modularly designed control center will consist of 20 CENTRACOM™ Series II Plus communications consoles with CRT displays and features that result in faster and more efficient dispatcher response-time, while reducing stress levels frequently associated with these operations. The system's digital signaling scheme will provide faster system access, virtually eliminating the need to wait for an available channel.

Many features in this new digital trunked system will enable users to perform their duties more efficiently than before. Thanks to the Motorola FLASHport™ software programming in the system, adjustments to the following features, as well as all others, can be performed quickly and easily whenever needs may change.

Pre-defined priority levels on this system will result in faster system access to the most critical users during busy periods. The "Emergency Call" feature will alert dispatchers to situation that requires immediate attention while preventing interference from any other radio communications. "Private Conversation" will provide selective calling between two users on a talk group when sensitive information must be communicated.

"Dynamic Regrouping" will provide nearly unlimited built-in system flexibility, enabling a dispatcher to reassign radios into more than 2,000 separate talk groups when needed, without distracting field personnel from their assignments.

Motorola's ASTRO digital radio platform in this system is the first available to meet the APCO Project 25 Common Air Interface (CAI) standard. This standard calls for the interoperability of mobile and portable radio equipment from any manufacturer on any APCO 25 compliant public safety system.

Motorola's Land Mobile Products Sector is one of the world's leading providers of analog and digital two-way voice and data radio products and systems for conventional, shared and private applications worldwide. In addition, Motorola is one of the world's leading providers of wireless communications, semiconductors, advanced electronic systems and services. Other major equipment businesses include cellular telephone, paging and data communications, personal communications, automotive, defense and space electronics and computers. Communications devices, computers and millions of consumer products are powered by Motorola semiconductors. Motorola's 1994 sales were $22.2 billion.

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COMPUTERS

SCANWARE FCC DATABASE VERSION 2.11

An FCC Database on Disk.

by Lonnie Gorsline

If you haven't heard of ScanWare's FCC Database Retrieval System, I'm here to tell you more about it (Figure 1). If you're one of those computer users who doesn't have a CD ROM drive and wants to be able to have a FCC Frequency Database Retrieval System, then you'll want to take a look at this program.

The program works in DOS, and also works just fine in a DOS window in Windows 95. I'm sure it would work just as well in Windows 3.x. The only thing to keep an eye on is the disk space. Since you're not using a CD ROM, your database is installed on the hard drive. So make sure you have enough room. I'm using only one database and it took up about 6 MEGs of space. That's not really a whole lot, but if you're planning on having the whole United States, or even a significant part thereof, it's going to take up a lot of space, so just be warned.

The program comes on 3-1/2" disk and the installation is as easy as popping the disk into the computer and typing "Install." In a quick few minutes you'll have a fully functional data base. What's really nice is that you can buy just the data for the areas you want. You can make your database be what you want it to be. Not only can you have frequency information on Business and Public Safety for each state, but you can get databases for the Broadcast, Railroad, Aircraft and Marine Bands. You can also get the FCC Metro-Call for any US city and all surrounding counties, which is what I'm reviewing (Fig. 2).

I live in the Portland, Oregon area, so I picked up what is called "Metropolitan Portland Frequency Data." Not only does it cover the Portland, Oregon Metro area and the surrounding counties, but since Portland is on the border of Oregon and Washington, it also includes some neighboring Washington counties as well.

The information covered by the database is extensive and includes the following:

- Frequency
- Call Sign
- Licensee Name
- Licensee City
- Licensee State
- Zip Code
- Service Code
- Class
- Transmitter City
- Transmitter State
- Transmitter County
- Transmitter Latitude
- Transmitter Longitude
- Transmitter Elevation
- Transmitter Height
- Transmitter HAAT
- Transmitter EFF
- Antenna Height
- Radius
- Polarization
- ERP Out
- Power Out
- Emissions
- Number of Vehicles
- Number of Portables
- Number of Aircraft
- Number of Marine
- Number of Pagers
- High Frequency Limit
- PL Tone
- Notes

As you can see, there are plenty of records, and there's a bonus—you can

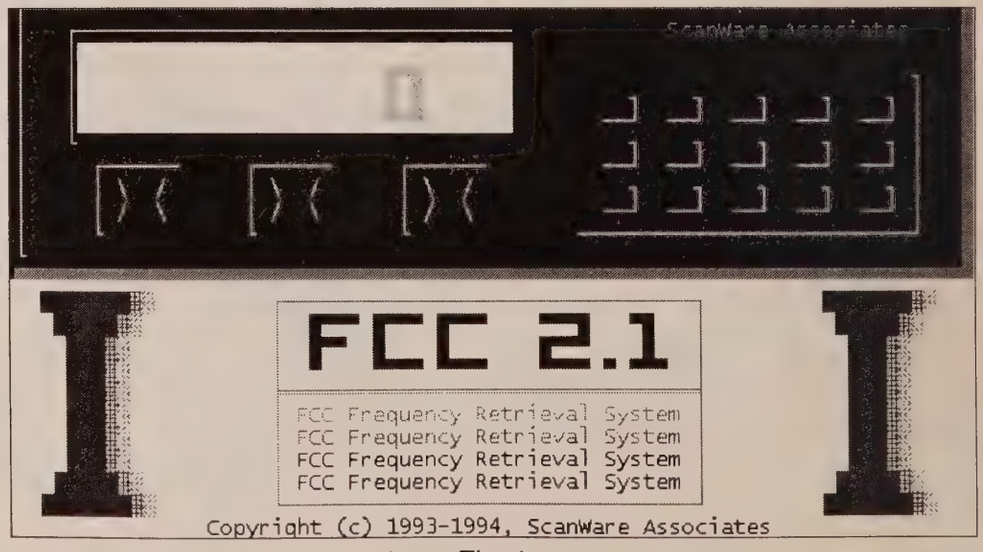

Fig. 1

edit all of it. You might not need all of that information, but at least it's there if you ever do.

The screen is well laid out and easy to read. To see other information about a given frequency you can scroll to the right or you can use the "View" option, which brings up a window with all the information (Fig. 3). When scrolling to the right you might want to keep certain information visible on the left. This can be done easily by using a feature called "Lock." When you access this control, you will be asked how many columns do you want to lock. This is nice, since you may want to lock more than just the default column, which is the Frequency column.

Another great feature of the program is the ability to create databases within your existing database. For instance, you can create both city and county databases from the main database. Those are saved on the drive for later use. If you want to create a small database from within the one you are working, to use just for that one session, then you can use the "Sub" command. This command will bring up a window asking for the upper and lower limits of the frequency that you want to look at.

You can also search though the database using the "Search" command. Depending on what you're searching for, you need to make sure that the database is indexed for that column of information. As an example, if you want to search for a certain frequency, then make sure that you have the database indexed for "frequency" (it's shown on the bottom of the screen). If you're going to search a Licensee Name, then press the button to index and it will cycle through the choices. One tip that you might want to be aware of: When using the Search function for frequencies, you need to make sure you put in the leading zero(s) first, then the frequency. For instance, if the frequency that you want to search for is 155.505, then you would enter 000155.505. I know this is awkward, but you get used to it after a while. This, of course, is all in the manual. One other note here; if you try to search for a frequency that isn't in the database, it will not display the digits as you enter them. The same holds true if you are searching for a licensee. If the name you're searching for is not in the database the program will not let you enter the letters. If you are looking for the name, "Lonnie," and if it's not in the database, you will not see the "L" come up in the search window.

This database program is so flexible that you run a Custom Report to give you information on specific information you require. You can have this report output in four different ways: On the screen; as a SDF file; a Delimited file; and a Database file. If you use the screen as the output, you can then print it out, if you want. Make sure, however, that you have a wide carriage printer or you won't be able to get all of the information on the page.

If you don't like the default program settings you can change them. I found it real helpful to be able to change how many lines I could display on the screen at one time. Depending on what type of video card and monitor you have, you can change the default lines from 25 to either 45 or 50. The difference between, 25 lines, and, 50 lines, make quite a difference.

The lines are not the only thing you can change. If you don't like the colors of the screen or background, the

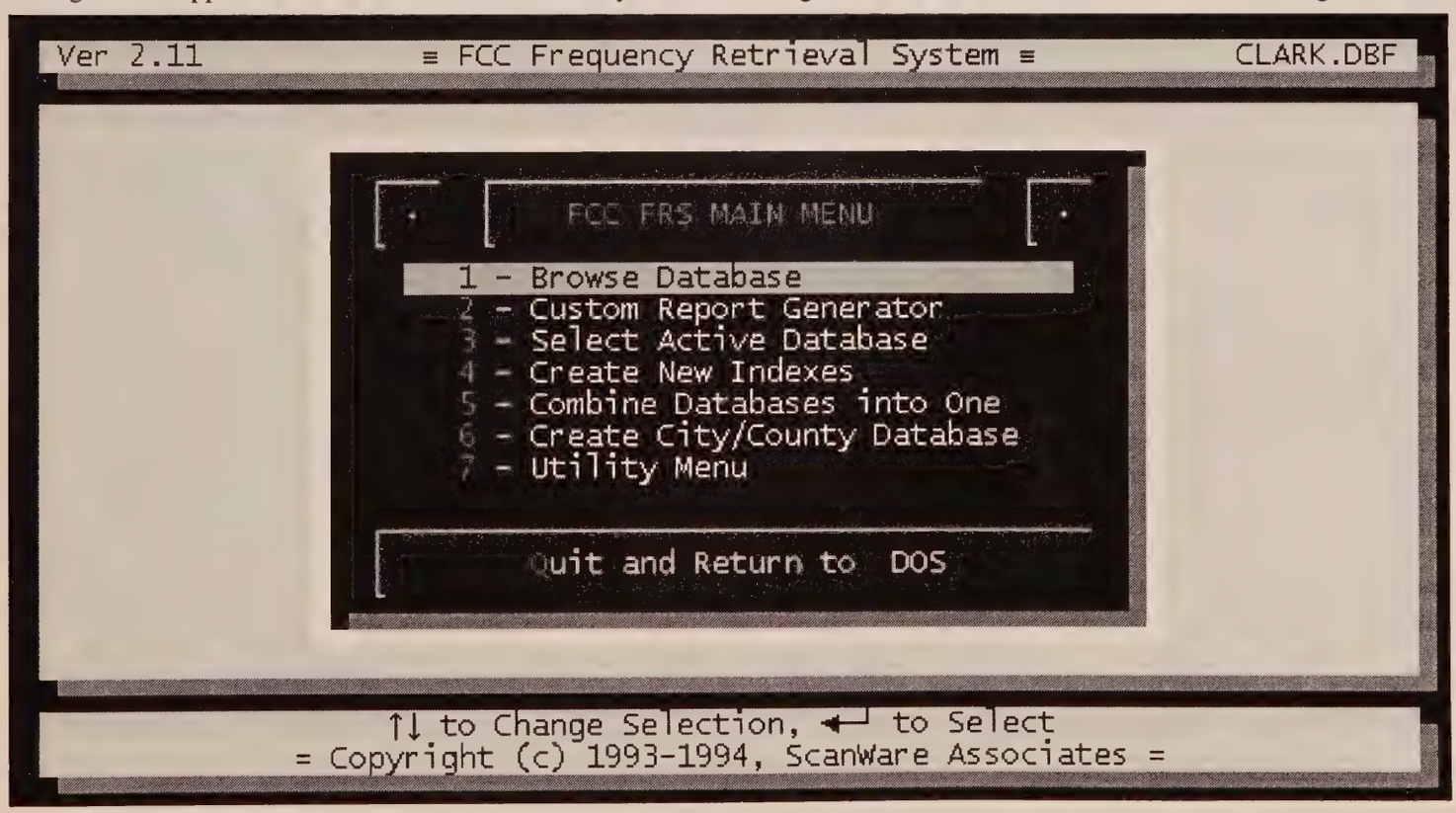
Ver 2.11
≡ FCC Frequency Retrieval System ≡
CLARK.DBF
FCC FRS MAIN MENU
1 - Browse Database
2 - Custom Report Generator
3 - Select Active Database
4 - Create New Indexes
5 - Combine Databases into One
6 - Create City/County Database
7 - Utility Menu
Quit and Return to DOS
↑↓ to Change Selection, ↵ to Select
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Fig. 2

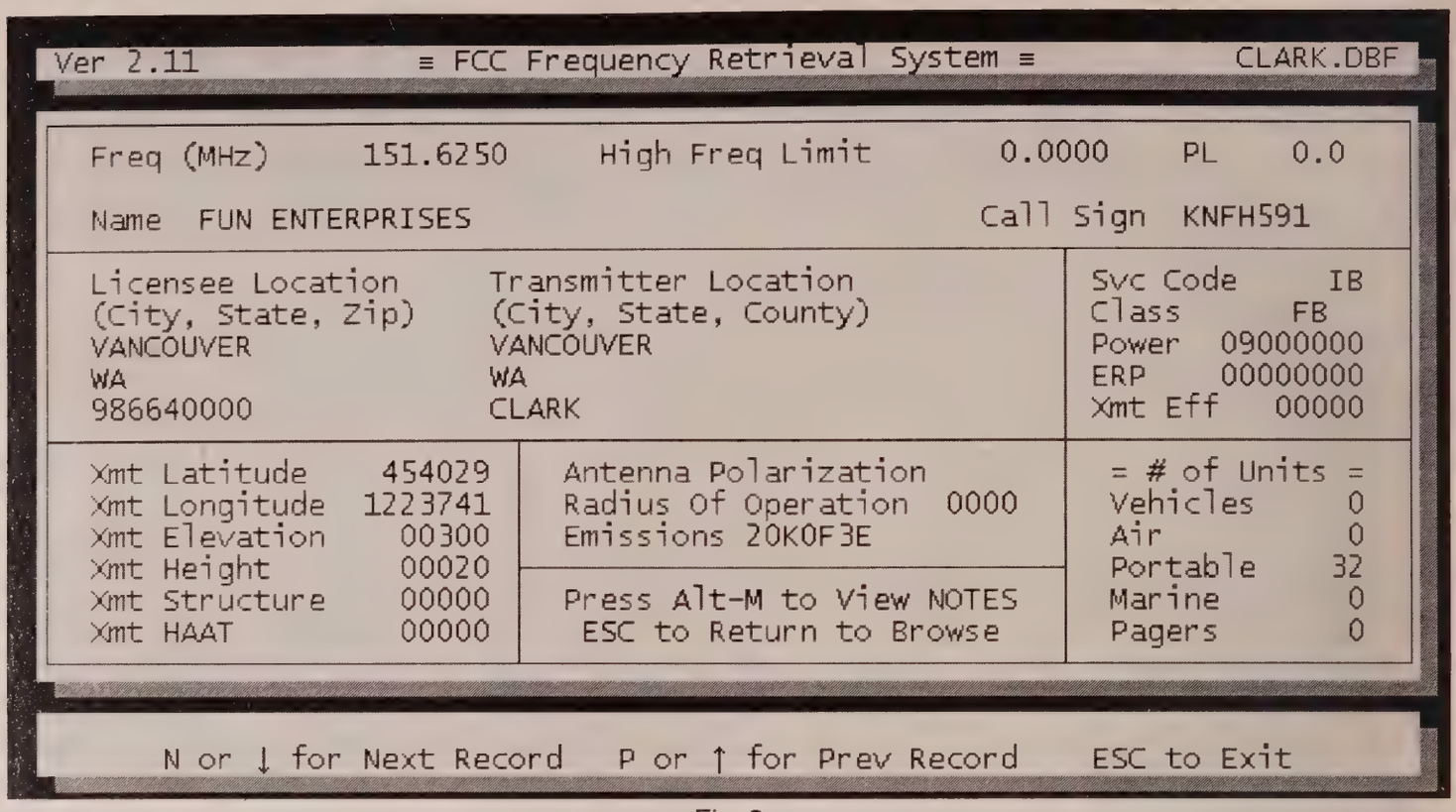

Fig. 3

sounds, or a number of other parameters, you can change them to suite your taste.

Now to the bottom line: The program is easy to set up, easy to use and gives me all of the information I require. I like the fact that you can tailor your database to be whatever you want it to be. Your database may be completely different from someone else's, depending on what information you want to have available for your monitoring interests—and since a lot of users don't have CD ROM drives, this is the perfect program for them.

I do have only two minor complaints. The first one is that I would like to see a better Search routine, so I don't have to add the leading zeros in front of the frequency. The second one is that I would like to see a way to be able to get all off the frequency information on an 8-1/2 by 11" piece of paper, going in the landscape direction when printed. There may be a way on some printers but I wasn't able to find a way on mine. Not everyone has a wide carriage printer!

So if you don't have a CD ROM drive and have been wanting a frequency database, I doubt you will be disappointed with this program.

I rate this program 3-1/2 out of 4 stars.

Price of the program reviewed: $25.00

You can order, or find out more about ScanWare Associates Frequency Database's the following ways:

Phone: (360) 698-1383
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ScanWare BBS: (360) 871-4228 or (360) 871-4591

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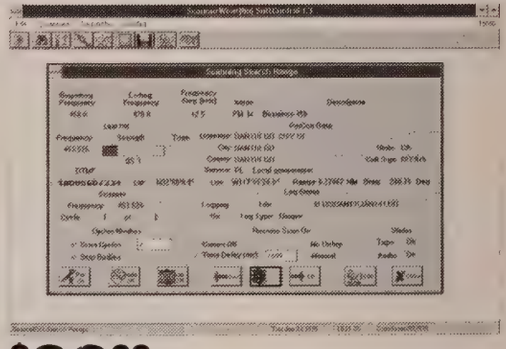

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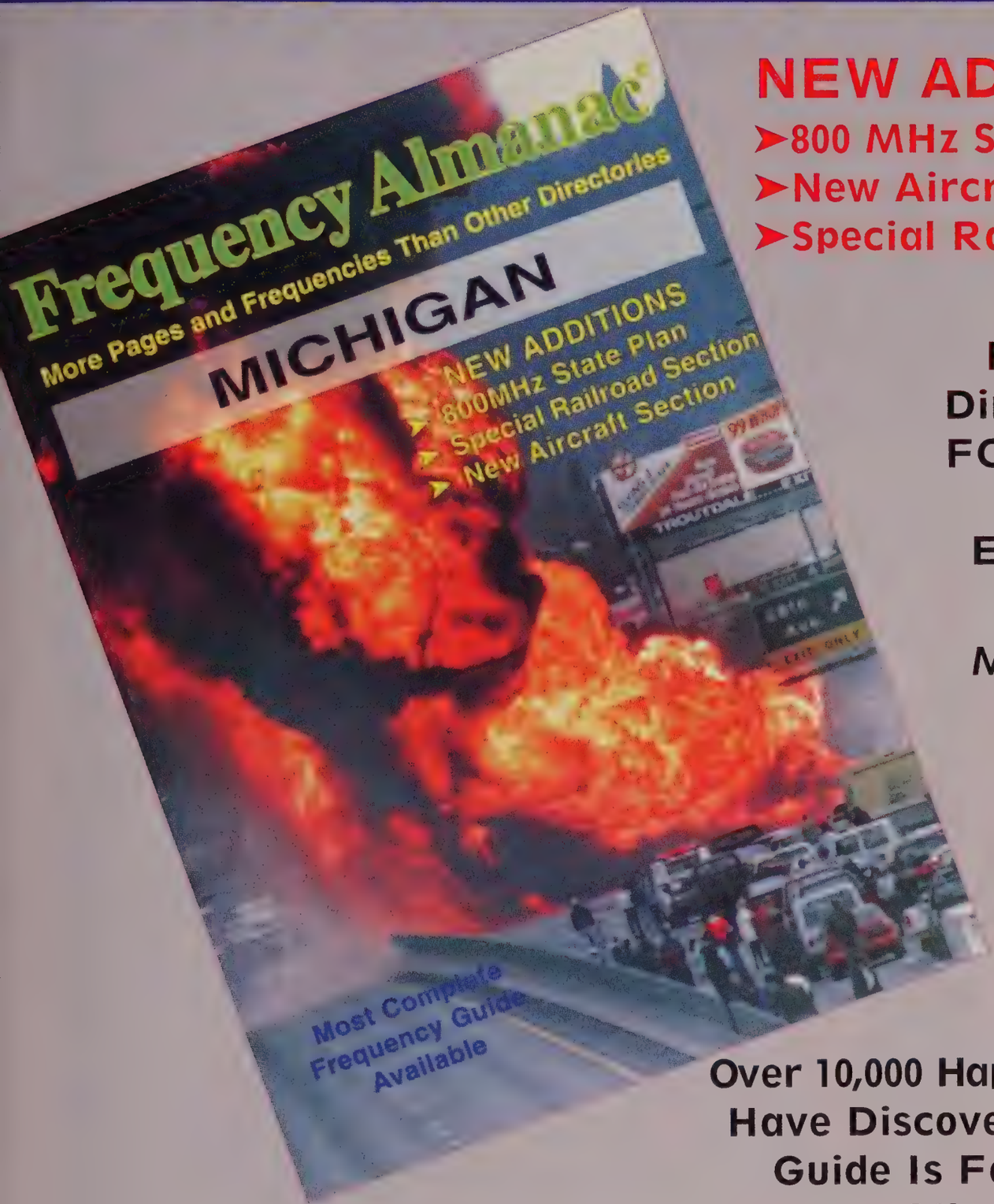

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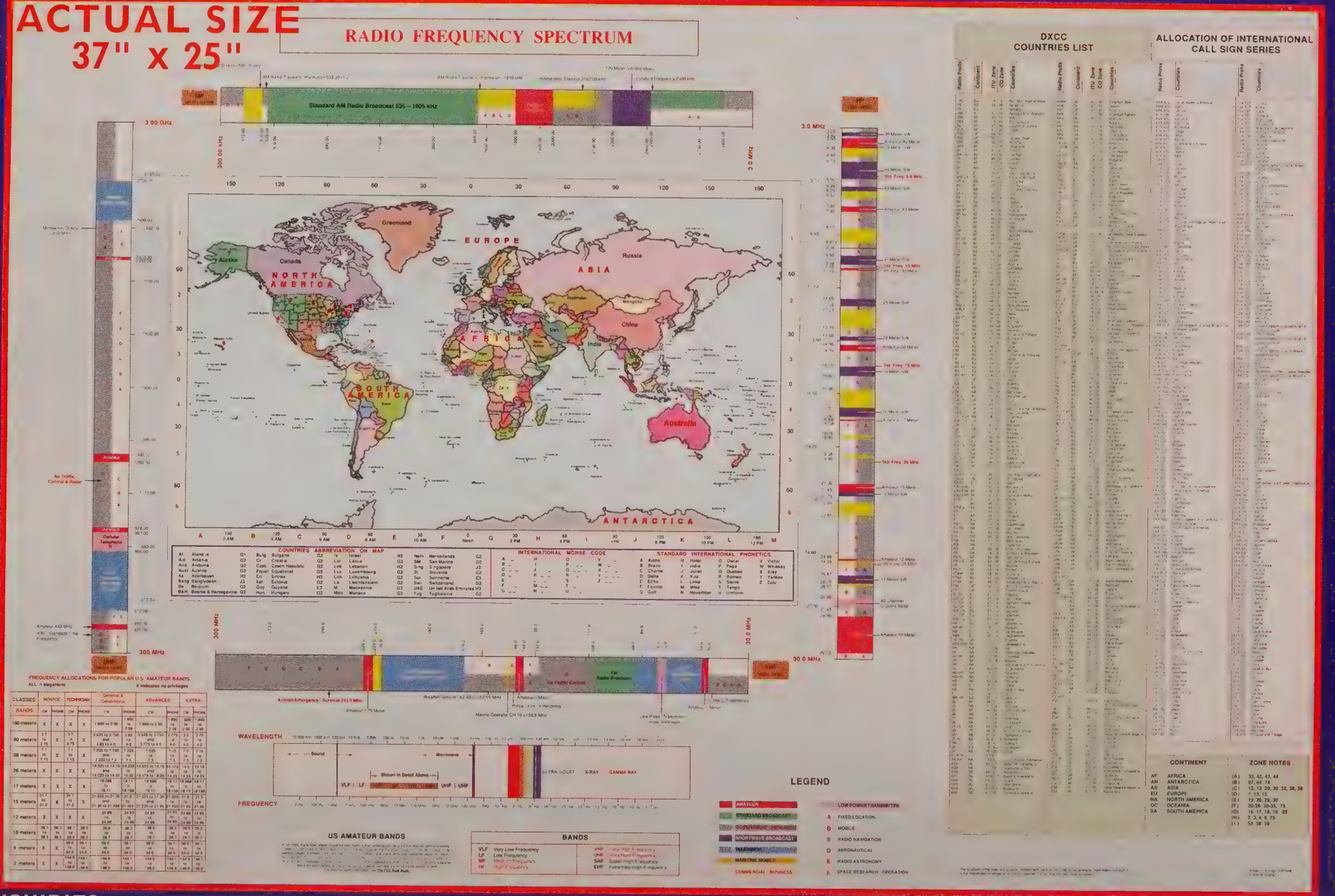

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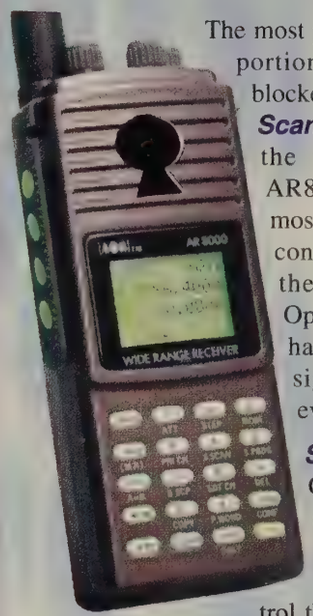

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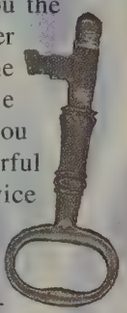

ScanCat GOLD Can be used to restore full coverage of the AR8000. In addition to the AR8000 you can computer control the AR2700, AR3000A, Drake, Kenwood, Icom, Yaesu, JRC, Lowe 150, WJ HF1000 and Radio Shack Opto Scan. Details available.

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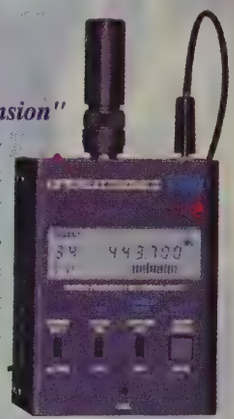

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SPACE COMMUNICATIONS

Weather Satellites

First in a Series of Articles on Weather Satellites.

by Donald E. Dickerson, N9CUE

You've been asking for it, so now we begin the long awaited series on weather satellites. Not just weather satellites, but how to assemble your own station for tracking and receiving WEFAX weather maps from both polar orbiting and geostationary satellites. We will begin by looking at the spacecraft, then move on to antennas, receivers, preamps, coax, processors, computers and programs during the following months.

Russia, China and the US have several polar-orbiting weather satellites that transmit on the 137 MHz band. Russia, America and the European Space Agency also have weather satellites in geo-stationary orbit (22,000 mi). These transmit in the 1691 MHz (1.6 GHz) range and will require a dish antenna and special feedhorn to receive. We will show you how to build one. We will also take a look at how to convert an inexpensive Radio Shack scanner into a WeFax satellite receiver.

If your only interest is listening to the satellites while learning to track spacecraft, you will only need a standard scanner that covers the 136 to 138 MHz range. Polar-orbiting weather satellites have strong signals and are easy to hear.

Before we get into the specifics of equipment we will take a look at weather satellites, where they are and what information they transmit.

There are two common types of orbits used by spacecraft in general, the polar and geostationary are the most common. A polar orbit is a low altitude orbit, also known as a Low Earth Orbit (LEO), in which the spacecraft passes near the earth's poles during each pass or orbit. This means the flight path will be an angle somewhere between 70 and 90 degrees to the equator. This is known as the satellites inclination and it is always given in degrees. The space shuttle is often in a LEO (not a polar orbit) with an inclination of 26 to 46 degrees. The Mir space station also uses a similar LEO.

America's polar-orbiting weather satellites are known as Advanced

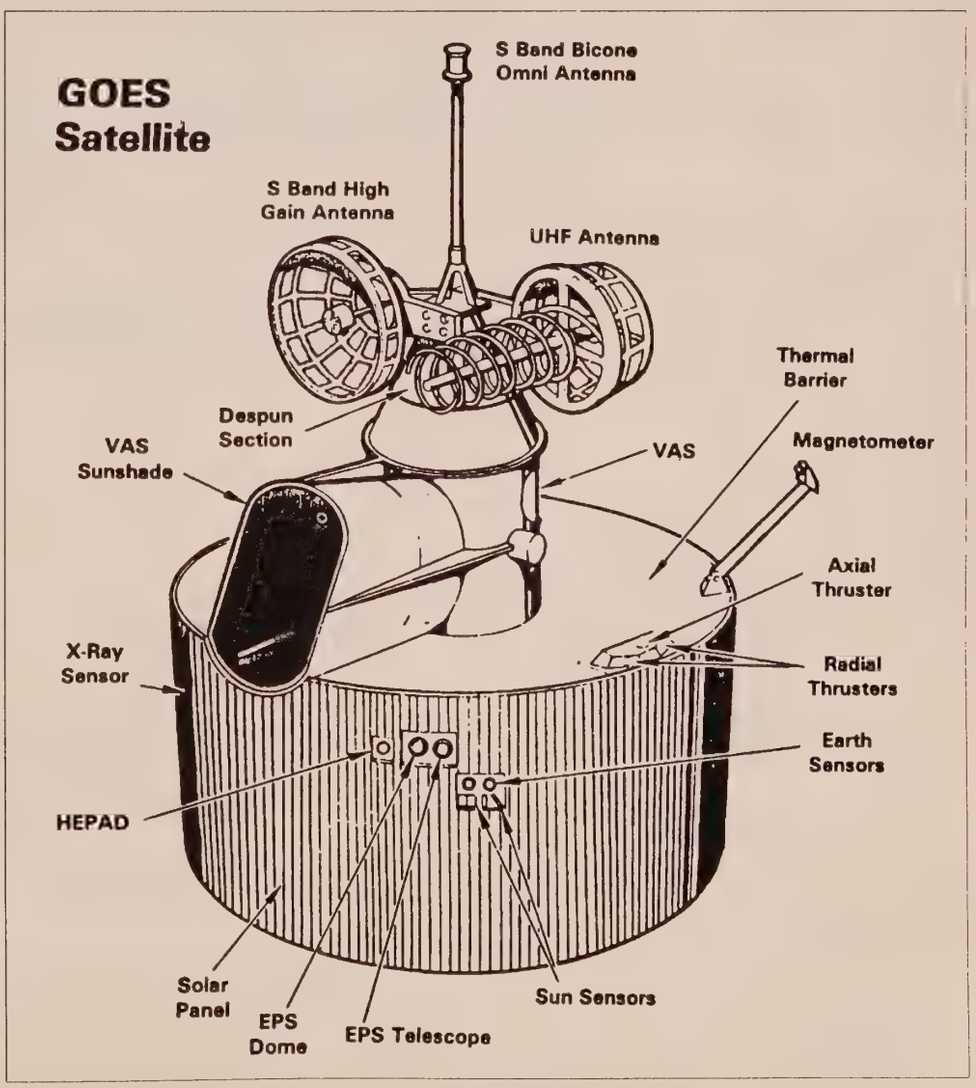

Fig. 1

GOES Uplink and Downlink Frequency Spectra

Uplink Frequency, MHz

Downlink Frequency, MHz

VAS – VISSR Atmospheric Sounder
DCPR – Data Collection Platform Receiver
DCPI – Data Collection Platform Interrogate
CDA – Command and Data Acquistion
SVAS – Stretched VAS Relay Channels
TARS – Tracking and Ranging System
WEFAX – Weather Facsimile Service
CMD RNG – Command and Ranging
STDN RNG – Spaceflight Tracking and Data Network Ranging
STDN TM – Spaceflight Tracking and Data Network Telemetry

Fig. 4

Advanced TIROS – N

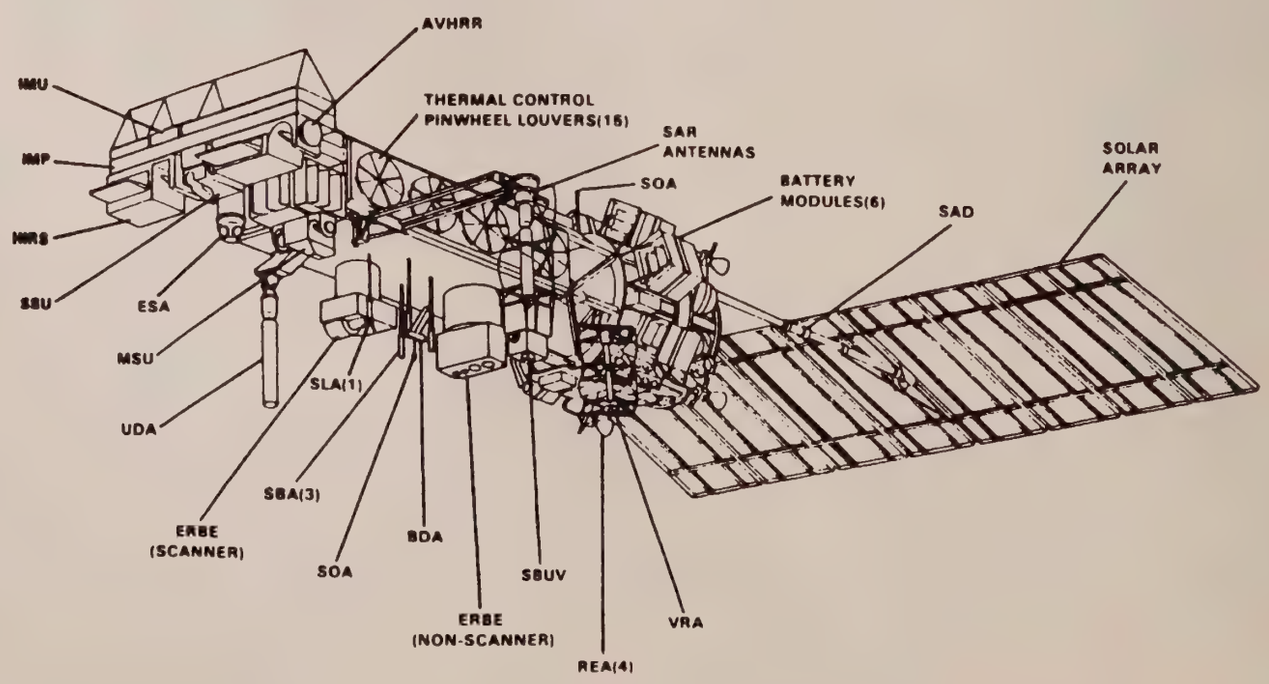

Fig. 2

TIROS-N. They keep this name until they reach orbit. When it reaches orbit it is named NOAA with the appropriate number attached. For example NOAA 12 was the last spacecraft in this series to be launched. NOAA stands for the National Oceanic and Atmospheric Administration, which is responsible for the satellites operation.

The Russian polar-orbiting weather satellites are called Meteor. They also use number identifiers. Current satellites include Meteor 3-5, Meteor 2-21 and Meteor 3-6. Polar-orbiting satellites transmit images in what is called Automatic Picture Transmission (APT) These images are transmitted in the 137 MHz band. You will need an outside circularly-polarized antenna or discone with a pre-amp if you want to display these images. The stronger the received signal, the better the images you can produce. You will also need a processor to change the satellite data into information a computer can use. This also takes special software. We will look at this in detail in future installments.

If you currently receive and or display HF Wefax, the satellites may confuse you. Wefax is the name of the method used to transmit weather maps. On HF the station transmitting Wefax use an AM carrier and superimpose the images on this carrier using FM. This means you need a processor that will pull the FM off of the AM carrier. With satellites the two modes are reversed. The signals from the spacecraft are in FM with the images superimposed in AM. So your processor should be switchable between AM and FM. A Wefax processor or interface is connected between your receiver and your computer.

Wefax transmissions from satellites are nearly 50kHz wide. This means that most standard scanners cannot be used to receive APT unless they are modified. Some top-of-the-line receivers by ICOM, AOR and others have adjustable IF (Intermediate Frequency) bandwidth which means you can adjust the receiver to match the width of the transmitted signal.

The second type of weather satellite is the geostationary. Like TV satellites they are orbiting at 22,300 miles above the equator. They seem stationary because at this altitude they can maintain enough speed to travel at the same speed that the earth turns. US geo Wesats transmit images on 1691 MHz (1.6 GHz). European Wesats transmit on 1694 MHz. US Spacecraft are known as GOES which is an acronym for Geostationary Operational Environmental Satellite (GOES). As you can see from the GOES frequency spectra chart, these satellites produce a lot of usable data. We are only concerned with the Wefax channel at this point.

Don't panic when you see the 1.6 GHz frequency. You will not have to

Polar Satellite Communications Link Summary

Link	Carrier Frequency	Information Signal	Baseline Bandwidth	Modulation
1. Beacon	137.77 MHz or 136.77 MHz	Low Bit Rate Instrument Data and Spacecraft Telemetry, All From TIP	8320 bps	Split-Phase PSK
2. VHF Real-Time —APT	137.50 MHz or 137.62 MHz	Medium Resolution Video Data From MIRP	2 KHz	AM/FM
3. S-Band Real-Time —HRPT	1698 or 1707* MHz	High Resolution Video Data and TIP Data From MIRP	665.4 kbps	Split-Phase PSK
4. S-Band Playback to CDA's	1698, 1702.5 or 1707 MHz	High Resolution and Medium Resolution Video Data From MIRP	2.6616 Mbps	Randomized NRZ-PSK
5. Data Collection (Uplink Only)	401.65 MHz	Data From Earth Based Platforms and Balloons	400 bps	Split-Phase PSK
6. S-Band TIP Data Playback	1698, 1702.5 or 1707 MHz	TIP Data Recovered From On-Board Recorders	332.7 kbps	Split-Phase PSK
7. Command Uplink	148.56 MHz	Digital Commands	1 kbps	Ternary FSK/AM

*1702.5 MHz may be used for HRPT in the event of failure of primary S-band Transmitters.

buy an other receiver. We will use a downconverter to change the 1.6 GHz signal to a 137 MHz signal. This way you can use the same receiver you use for the polar orbiting satellites. You will, however need a satellite dish at least 6 foot in diameter. Some have used a 4 foot dish with limited success. Next you need a feed horn for the dish antenna. This we will make from instructions in Taggarts Weather Satellite handbook.

To display weather maps, you will need an interface (processor) and software. Most manufacturers will include software with their processors. The processor is connected to your IBM–compatible computer and displayed on a screen or a printer. We will discuss the hardware and software later in this series.

If you already own a TVRO system there is another way to display weather maps. Spacenet 3 transponder 17 transmits weather maps. These can be intercepted and displayed. You will want to tap into the video or baseband output jack on the back of your satellite receiver. When you tune to transponder 17 you will notice the picture is blank. That is because the audio, which contains the information that makes up the weather maps, is where the video usually is on a regular TV channel. This information is in AM mode. So your HF Wefax processor will not work unless it is switchable between FM & AM. The audio information from the baseband (F72) output on the receiver is sent directly into the antenna jack of your shortwave receiver by 50 ohm coax. ***WARNING:*** Anytime you pull a signal off a TVRO coax line, LNB or broadband output of the receiver you MUST use a through-tap to protect your equipment from DC voltage that might be on the line. We will show you how to build one in a future edition or you can visit you Radio Shack store and ask for one. Your receiver will have to be in the AM mode and you will want to tune to 1.883 MHz or 1.928 MHz. These are two separate weather maps. The audio from your shortwave receiver is next fed into a Wefax processor then into a computer which will display the maps on the monitor or your printer. The other option is to feed the audio from your shortwave into an Infotech M-800 or similar decoder which can display the weather maps on a printer.

Before part two in this series begins (next month), I suggest those serious about putting a weather station together, or if you want to know more about the subject, get the following books: The Weather Satellite Handbook, by Ralph Taggart and published by ARRL and a book by Tony Curtis (K3RXK) called Weather Radio and published by Tiare Publications.

Next month we will begin putting together a weather satellite station. We will look at receivers and show you now to convert a Radio Shack scanner into a weather satellite receiver with a .01 mfd capacitor.

Weather Satellites

Frequency	Satellite	Country
137.300	Meteor	Russian
137.400	Meteor	Russian
137.500	NOAA 10/12	American
137.620	NOAA 9/11	American
137.795	FENGYUN	China
137.850	Meteor	Russian

USSN

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INTERNET

Racing On The Net

There is a Wealth of Information for the Scanner Listener and Racing Enthusiast on the WWW.

by Steve Baker

One of the most exciting uses for your portable scanner is to take it to the race track. There is a flurry of communication going on between the driver, the pit crew, and the announcers. You can pick up most of the action from your seat, scanner in hand.

Individual drivers stick to specific frequencies. A small number of these channels are scrambled. Some teams switch frequencies often so you have to keep trying their different frequencies until you find them. Frequencies used by the media vary from race to race. To find the channel for the covering media at any given event, it's recommended to use the scanner's search mode between frequencies 450 and 470 MHz.

On one of the Nascar newsgroups, I found a racing enthusiast named Mark Schoof (schoof@ann-arbor.applicon.com) looking for a current list of Nascar Winston Cup frequencies. I forwarded him my most current listing and asked him if he had ever used his scanner at a race before.

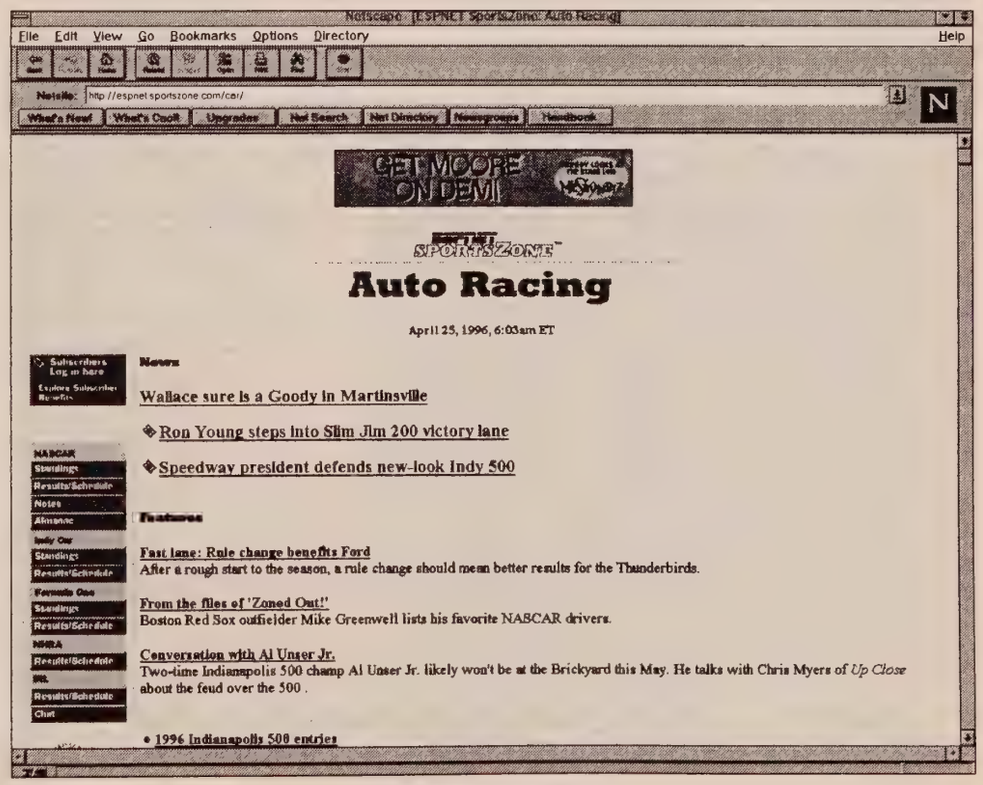
"Just got my scanner last week and have not had a chance to use it at a track yet. I have used other people's scanners and loved it, that's why I wanted one. One friend of mine has his set up to listen to MRN's race coverage (454.000 MHz) all of the time. He also sets it up so that if Gary Nelson, or one of a number of drivers, talks, they would interrupt the MRN broadcast. The scanner would return to MRN if no one else was talking. It added a lot to the race. It is interesting and informative listening to the NASCAR official's and the driver's comments. I would recommend it to any serious race fan."

This month's column will examine NASCAR and INDY resources on the Internet—places where you can find detailed information about the teams, drivers, schedules, standings and the frequencies being used at today's races.

To use these resources, all you will need is access to the USENET newsgroups and a World-Wide-Web (WWW) Browser (such as Netscape, or the software provided with Prodigy, America Online and Compuserve). Keep in mind that WWW URL addresses (www.for.example) are case sensitive, so you must type them in as you see them (most URL's are lowercase).

Over twenty-five million people watched the NASCAR Winston Cup races last year and companies like Prodigy want a piece of the action. It used to be that stock car race sponsors were limited to automotive-type companies. Today, fast food, cable channels and online services such as Prodigy are getting into the act.

The Internet is an excellent resource for today's racing enthusiast. Many companies which sponsor teams also sponsor WWW pages, along with a number of fans setting up their own informative pages. It is on the fan pages that you will find most of the scanner frequencies.


Netscape - [ESPNET SportsZone: Auto Racing]
File Edit View Go Bookmarks Options Directory Help
Netsite: http://espnet.sportszone.com/car/
What's New! What's Cool! Upgrades Net Search Net Directory Newsgroups Handbook
GET MOORE ON DEMI
ESPNET SPORTSZONE
Auto Racing
April 25, 1996, 6:03am ET
News
Wallace sure is a Goody in Martinsville
Ron Young steps into Slim Jim 200 victory lane
Speedway president defends new-look Indy 500
NASCAR
Standings
Results/Schedule
Notes
Almanac
Indy Car
Standings
Results/Schedule
Formula One
Standings
Results/Schedule
NHRA
Results/Schedule
IRL
Results/Schedule
Chat
Features
Fast lane: Rule change benefits Ford
After a rough start to the season, a rule change should mean better results for the Thunderbirds.
From the files of 'Zoned Out!'
Boston Red Sox outfielder Mike Greenwell lists his favorite NASCAR drivers.
Conversation with Al Unser Jr.
Two-time Indianapolis 500 champ Al Unser Jr. likely won't be at the Brickyard this May. He talks with Chris Myers of Up Close about the feud over the 500.
• 1996 Indianapolis 500 entries

NASCAR Web Page

To start off, lets talk about the USENET Newsgroups that center around the racing industry:

rec.autos.sport.indy
rec.autos.sport.misc
rec.autos.sports.nascar

These are three very active groups, moving a total of around seven hundred messages a day. In these discussion forums fans, drivers and sponsors debate past races, trends, and the future of the sport. There are also periodic postings of racing information, including updated frequency listings.

Now let's take a look at some of the corporate-sponsored WWW pages, including some of the official pages of popular racetracks:

NASCAR Online
www.nascar.com

This is one of the best pages that can be found on the entire WWW. It is a professionally designed page that features superb graphics and is updated daily with news and information about teams, tracks, schedules and standings. It is considered the most comprehensive source for information on the history of Nascar racing, teams and drivers.

It features a "Nascar Today" section on the main page, containing news and information about the Nascar racing world. The top stories of the day are displayed in brief, along with a link to allow you to read the entire article.

For those of you with a fast modem and some time on your hands, stop by the NASCAR Theater. It is accessible from the main page, and it features some of the greatest moments in Nascar history. These moments are captured on film and available for downloading in AVI or Quicktime formats.

Talladega Superspeedway "Nascars most competitive track"
www.webex.com/racedega.html/

This professionally designed site offers information about the Talladega Superspeedway in Talladega, Alabama. It features information about upcoming racing events such as the DIEHARD 500, and the Busch Series Hummingbird Fishfinder 500k.

The entire 1996 racing schedule is available, along with ticket availability, parking and lodging information. Track results for the 1995 season are also posted here.

You can in addition access historical photographs in the Nascar Talladega Photo Gallery.

PPG Indy Car World Series
www.indycar.com

NASCAR Winston Cup Scanner Frequencies

(Thanks to Mark Breland, www.breland.com)

0	Delma Cowart	466.5500	460.6875		43	Bobby Hamilton	852.1875	865.6125	
1	Rick Mast	458.1625			44	Jeff Purvis	463.5875		
2	Rusty Wallace	461.5875	461.3375		45	Rich Bickle	463.7375		
3	Dale Earnhardt	469.0125	463.2250	462.0250	48	James Hylton	467.1125		
4	Sterling Marlin	461.7500	464.3000		52	Jimmy Means Rac.	467.9250		
			467.9250	464.3875	56	Jerry Hill	460.9250	465.6875	
5	Terry Labonte	468.2125	469.4875		57	Jim Bown	461.6625		
6	Mark Martin	460.9500	468.5625		62	Ronnie Sanders	469.1750		
			463.9250	463.4000	63	Dick Trickle	468.3625	467.7625	
7	Geoff Bodine	457.3750	457.1750		64	Gary Wright	468.3250		
8	Hut Stricklin	465.8875	466.0875		65	Steve Seligman	466.2250	466.4875	
9	Lake Speed	464.1750	463.9750		66	Billy Standridge	465.7875	463.9000	
10	Ricky Rudd	465.7375	469.7375		71	Dave Marcis	467.5625		
			466.2375	467.8875	72	Jim Sauter	464.9625		
11	Brett Bodine	855.5125	855.5625		73	Phil Barkdoll	469.9625	461.3625	
12	Derrike Cope	467.7250	467.5750		75	Morgan Shepherd	468.9750	461.9375	
15	Wally Dallenbach	457.5250	457.5500	466.5625	77	Bobby Hillin	458.9750	459.8375	
16	Ted Musgrave	468.4500			79	Don Paul	464.6250	464.7250	
17	Darrell Waltrip	469.3125	468.7625	469.1375	80	Joe Ruttman	466.8625		
18	Bobby Labonte	467.7625	466.0125		81	Kenny Wallace	459.6875	459.2875	
19	Loy Allen Jr.	467.1875	467.0000		82	Mark Stahl	461.8250		
21	Michael Waltrip	855.0375	855.2875	854.7875	87	Joe Nemecheck	467.6125	460.2375	468.8375
22	Ward Burton	468.9375			88	Dale Jarrett	468.5250	466.5750	
23	Jimmy Spencer	469.8375	469.7625		90	Mike Wallace	467.1625		
24	Jeff Gordon	467.0625	469.4875		93	Gary Bradberry	465.0000		
25	Ken Schrader	466.7875	469.4875		94	Bill Elliott	469.8750	466.2250	
27	Elton Sawyer	858.8375	858.7875	(scrambled)	95	Chuck Bown	463.5000	463.5750	
28	Ernie Irvan	466.9500	466.4500		97	Chad Little	463.4250		
29	Steve Grissom	467.9625	466.4625		98	Jeremy Mayfield	468.7250	469.1500	
30	Johnny Benson Jr.	466.3000	466.1250		99	Jeff Burton	466.2750	466.8625	
32	Active Motorsports	462.7125							
33	Robert Pressley	468.7750	466.7375						
35	Bill Venturini	468.9250							
36	H.B. Bailey	468.4250							
37	John Andretti	461.2875	462.5250						
			461.6625	(scrambled)					
41	Ricky Craven	459.3625	461.5625	461.3625					
			466.5625						
42	Kyle Petty	461.0000	460.9750						

NASCAR Officials Frequencies

NASCAR 1	469.5000
NASCAR 2	464.5000
NASCAR 3	464.9000
NASCAR 4	464.7750
NASCAR 5	465.0250
NASCAR 6	463.8500
NASCAR 7	461.2000
NASCAR 9	463.6250

This is another top-notch site that is updated on a daily basis with PPG Cup Series racing news, schedules, race information, statistical reports and point standings. You can even fill out an online form and get a packet of ticket information mailed to you.

There is a lot of PPG Indy background and behind–the–scenes information located on this site, including material on the teams, drivers and sponsors. Indy Car and PPG merchandise is also available from this site.

Indianapolis Motor Speedway
www.brickyard.com

This site provides information on the Indy Racing League, the 1996 Indy 500, the 1996 Brickyard 400, the Aurora Indy 200, and the Dura-Lube 200. This includes complete 1996 driver point standings and a 1996 schedule of events. It also features Indy Racing League driver biographies, press releases and a photo gallery along with the Indy Racing League Newsletter and factsheet.

Speednet
www.starnews.com/speednet

This media site is updated throughout the day with official news and photographs from the Associated Press.

ESPNet
espnet.sportszone.com/car/

This sports-orientated site gets millions of hits every week. It is considered one of the best, and most active sites on the entire WWW. For racing enthusiasts, it offers the latest news, along with in-depth stories about the racing industry.

Now let's take a look at a couple of notable sites that are run by individuals. These sites are not updated as frequently as the professional sites, but they offer an outstanding amount of information for the racing enthusiasts.

The Pits
www.iquest.net/~cdenny/racing.htm

This site provides information on cars and drivers, and features on the most comprehensive lists of links to other racing sites — both corporate and amateur.

Coyotee's Home Page
www.primenet.com/~coyotee/

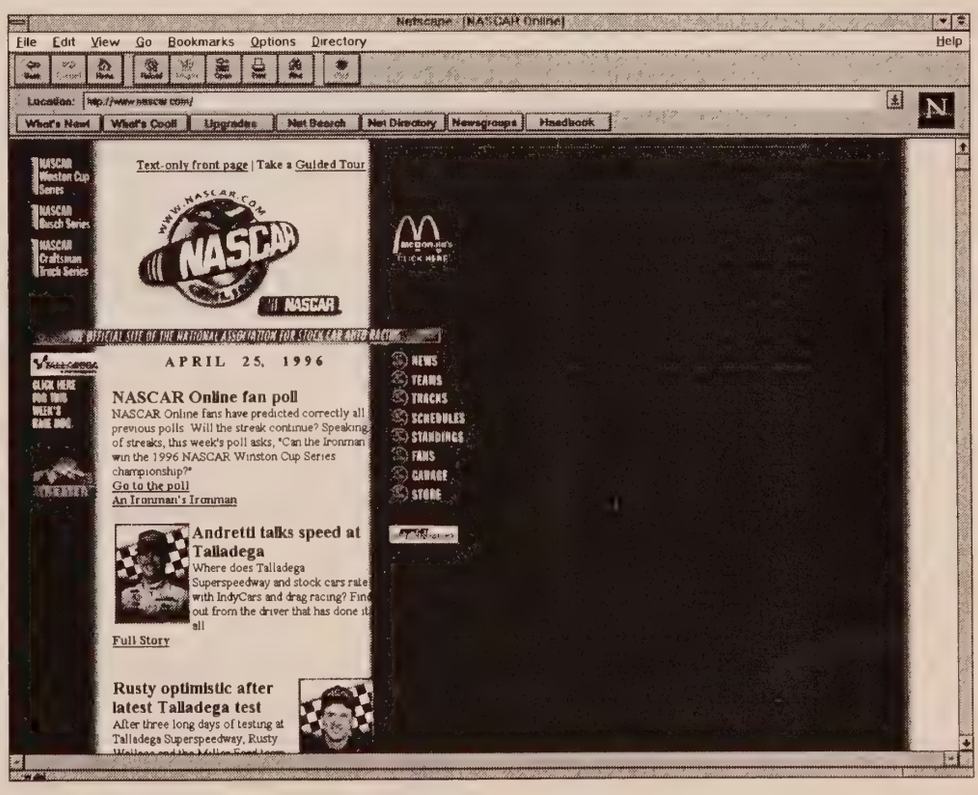
This is a multi-faceted page containing frequencies, racing links, racing information, amateur radio links, and a surprisingly popular section on teen-idols. Coyotee is the only person I know who is interested in both teen-idols and Nascar racing. In any event, he has a nice page with a lot of good information.

KC5KTO's Radio Page
www.zianet.com/files/users/kc5kto/

This is an incredible frequency source for racing, sporting, and just about everything else. Inside you will find listings of the frequencies used by the teams and drivers.

USSN

INDY Web Page


Netscape - [NASCAR Online]
File Edit View Go Bookmarks Options Directory Help
Text-only front page | Take a Guided Tour
APRIL 25, 1996
NASCAR Online fan poll
Andretti talks speed at Talladega
Rusty optimistic after latest Talladega test

ESPNet Web Page

BEGINNERS

Listeners Etiquette

Many Times the Law Has the Final Say.

by Laura Quarantiello

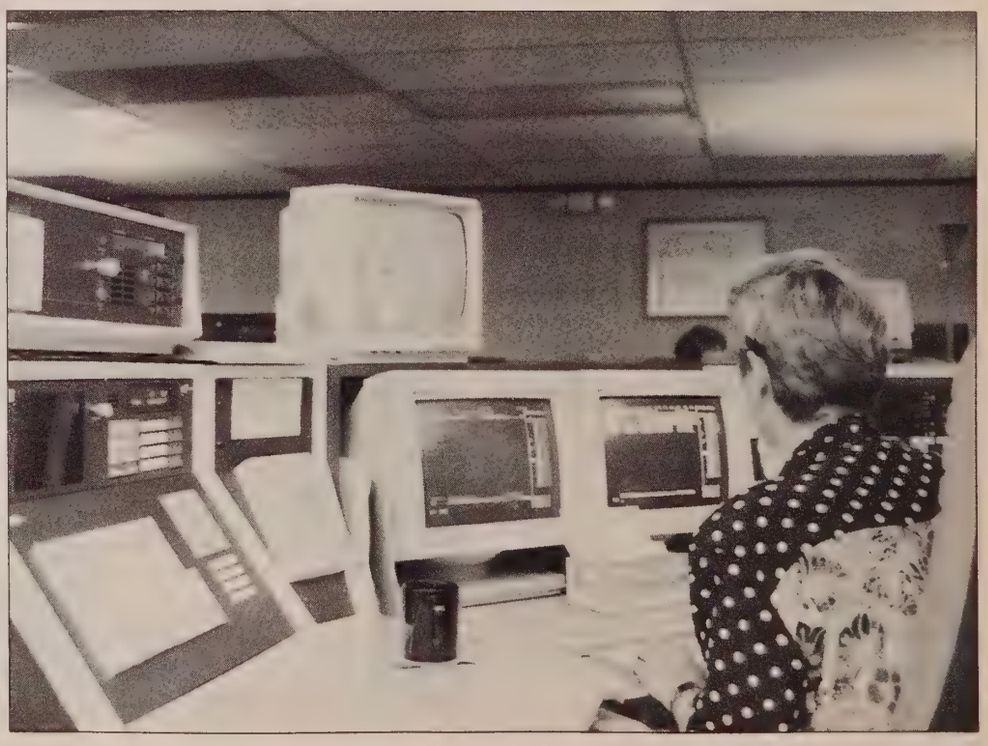
Recently, I confronted a decision that every scanner owner who monitors Public Safety services must confront sooner or later in the course of listening - whether or not to drive to the scene of a nearby emergency call.

Police, Fire and Emergency Medical Services are some of the most highly monitored agencies among the scanning set. Given the fact that these agencies are seen day after day going about their jobs on our own city streets, sirens wailing, red and blue lights flashing, it's no wonder Public Safety monitoring has drawn many to the hobby.

The easy availability of a wide variety of VHF/UHF scanners on the market today make it easy to receive Public Safety frequencies and go behind the scenes of local agencies. although many simply listen and have no interest in going any further, some think the experience is not complete without traveling to the scene and seeing things firsthand.

The law in many areas of the United States makes it a clear misdemeanor to sightsee at the scene of an emergency. Local and state laws, though they vary from jurisdiction to jurisdiction, often provide for fines or arrests, or both, of individuals who interfere with emergency crews. A wise monitor checks applicable laws, either through library research or direct communication with the State's Attorney General's office. Make it a point to know the laws that affect you as a scanner monitor and, by all means, obey them.

Scanner listeners can generally be divided, but not limited, to two distinct operating groups: The Police and Fire Buff listens to local frequencies just waiting for that big call, will not think twice about driving a considerable distance to reach the scene, and will frequently cruise around town following emergency crews in the hopes of seeing them in action. This person believes that he or she belongs alongside public safety officers, simply because he has access to the calls over a scanner. He will often cross police lines to speak with officers or firefighters, carrying the radio conspicuously; the Professional Public Safety Listener views the scanner as a tool through which he or she can learn the workings of emergency agencies and has a more keen interest in hearing communications procedures during a call. (What units are dispatched to which incidents? From what locations? How are the radio calls made? Are Mobile Data Terminals used? What frequencies are used and in what order? What are the call signs? Unit numbers?) The professional listener's interest remains with the radio, which is what communications are all about. Although they often carry handheld scanners with them, they know and respect law enforcement and fire officials and remain clear of any potential or known emergency areas. These two types have been identified based on personal experience and research. They are by no means the only types of scanner hobbyists that exist.



911 Dispatch Station

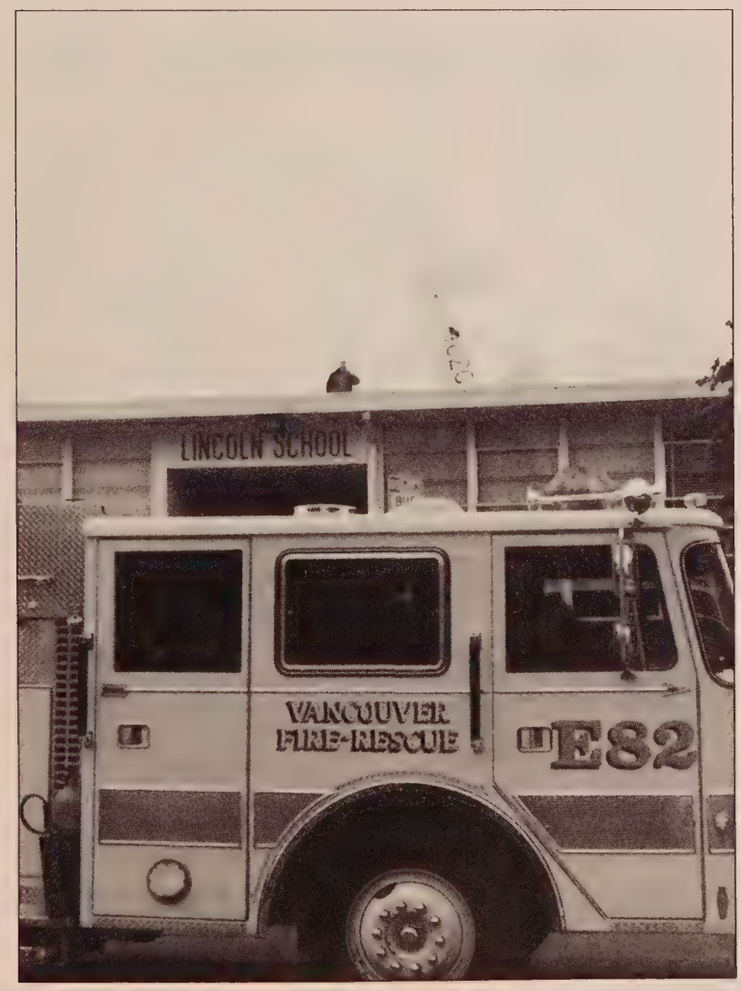
Occasionally there will be some crossover, such as when a serious incident occurs within view of the professional listener's home or location, and he walks out to observe. This behavior is only normal - most of his neighbors or other passersby are probably doing it, too. As long as he remains on his own private property or out of the way, all is well and legal. There is, however, a line between being an interested onlooker and being an interfering buff. Like so many other things in life, this can be a fine line. Crowds routinely come out of the woodwork to observe activity at an emergency site and in 99% of the cases this conduct is not frowned upon by police and fire officials. It's the one instigator who shows up at all local scenes with a radio, getting in the way, trespassing at crime or accident sites, with no good reason to be there, who gives scanner hobbyists a bad name.

No matter which type of scanner listener you are, there will come a time when you will find yourself contemplating going to an emergency scene. Here are some basic questions to ask yourself before you do:

1. Can I arrive at the call before emergency crews and assist in any way which might be beneficial?

2. Will showing up in the area contribute to unneeded traffic flow problems, or inhibit the movement of emergency vehicles and authorized personnel?

3. What are the local laws related to sightseeing at emergency scenes? Can I get fined or even arrested for being there?



4. Do I really need to be there? Won't I receive more information simply by staying home by the scanner?

If you do find yourself on scene at an emergency, there are some guidelines to follow which will help to ensure that you and your scanner won't become victims or unwanted trespassers:

1. If in a car, don't park on streets that might be used for main access to the scene by emergency personnel, as this might cause unwanted congestion, restrict avenues of approach and slow down the response. Keep your automobile well clear of any emergency areas.

2. If on foot, beware the movement of vehicles and remain at a distance, clear of potential danger areas which might result from explosions, downed electrical lines, hazardous materials or gunfire.

3. *Never* cross yellow police or fire line tape or cone barriers. These obstructions are in place to limit public access and protect crime scenes.

4. Always heed the instructions of police officers and firefighters. If you are asked to move or leave the area, don't argue, just do it.

5. If you have beneficial or important information about a crime or accident, or are a witness, make contact with a police officer at the scene to relay your information. Again, do not cross barriers or enter crime scenes - wait by a patrol unit or other emergency vehicle until an officer is free to speak with you.

As scanner listeners, out and about with radios in hand, we often hear privileged information over the airwaves relating to cases or incidents. The law makes it illegal to communicate anything we hear to a third party. It also makes it a punishable offense to divulge such communications to anyone known "to be a suspect in the commission of a crime with the intent to help the suspect escape arrests, trial, conviction or punishment." (California Penal Code 636.5)

Resist the urge to tell others around you at an emergency scene what you just heard over the scanner. Decorum warrants that you keep the volume low and the communications to yourself. If you don't, you just might be asked to leave by public safety officials.

You may have guessed by now that I didn't end up responding to that emergency call the other night. A scanner is only a license to listen and doing anything more is abusing the privilege. I did what I usually do; stayed close to the radio, monitoring the action and searching for new frequencies that might be in use. I didn't miss a thing...honest.

As scanner listeners, we have an inside edge about what transpires in life-threatening public safety situations. We are held to a higher standard and therefore we should know better than to get in the way and needlessly become victims.

Have a comment? Question? Write me care of USSN or E-mail me at 73733.1653@compuserve.com. **USSN**

FCC NEWS

Latest News From The FCC

by USSN Staff

The FCC has released a Report and Order that reallocates the uppermost one-third of the channels in the 851 to 866 MHz band, the 200 frequencies assigned in the Specialized Mobile Radio Service (SMRS) for trunked radio systems. That's right, every trunked SMRS system in the country on these channels could be ordered to change frequencies and move out of the 861 to 866 MHz segment. Is this some kind of a late April Fool's joke? No, we're not kidding!

This action is the result of two forces. The first is the desire of the FCC to accommodate what it sees as the wave of the future: high-capacity, region-wide, digital SMRS systems offering a combination of dispatch (two-way) radio and interconnect ("autopatch" telephone) service. The second impetus is the desire to reclassify and reorganize as much spectrum as possible so as to enable it to be auctioned. The bidding in auctions for licenses in other services held so far has gathered billions for the U.S. Treasury, and Congress and the Commission have dollar signs in their eyes!

The Specifics

This Report and Order divides the spectrum from 861 to 866 MHz into three blocks, a 120-channel block, a 60-channel block and a 20-channel block, in each geographic service area. (Channels are 25 kHz wide, so the 120-channel block, for example, will be 3 MHz wide.) The FCC picked the 861 to 866 MHz segment because it is the largest block of spectrum in the 851 to 866 MHz band allocated exclusively to the Specialized Mobile Radio Service. (In the 856 to 861 MHz segment, SMRS channels are alternated between channels assigned to the Industrial/Land Transportation and Public Safety Radio services.) They noted that it was desirable to have a contiguous block of spectrum, since some of the systems may incorporate technology that is not confined to conventional 25-kHz spaced "channels."

The petitioner in this proceeding (Nextel) originally asked that a single license be granted for the entire ten MHz of spectrum (the two 5 MHz, paired base and mobile bands) but the FCC decided that a viable system can be built with far fewer channels and that it was desirable to provide frequencies for competing systems, including those of smaller entrepreneurs. This is also how they arrived at the decision to allot frequency blocks of three varying sizes, allowing for systems using differing technologies and of different capacity. (They at first proposed four, equal-sized, 1.25 MHz blocks.) The smallest block (20 channels) is at the low end of the band. This was done on purpose, since they assumed that smaller businesses would be the most likely to bid for the 20 channel block. So they positioned it closer to the remaining SMRS channels at 856 to 861 MHz, hopefully to make relocation of existing systems easier.

Licenses will be awarded for geographic service areas defined by the U.S. Department of Commerce Bureau of Economic Analysis Economic Areas (EA's), rather than the Rand-McNally Major Trading Area's (MTA's) used to define the Personal Communications Service areas. MTA's were considered too large, and the Metropolitan Service Area's used to define Cellular service areas were considered too small. The new, "ideal-sized" EA's were preferred by most parties, because they will allow a broader class of business entity to bid for the licenses. They also better approximate the service area currently provided by the typical 800 MHz system.

To accommodate these new systems, existing SMRS systems in the 861 to 866 MHz will be subject to mandatory relocation. This is in sharp contrast to the proposal in this proceeding, where the FCC said that they "prefer to allow (new) licensees and incumbents to negotiate relocation, frequency swaps, mergers, purchases or other arrangements on a voluntary basis." They stated at that time that "decisions regarding relocation should be left to the parties and the marketplace."!

The relocation is similar to the plan for existing Fixed (point-to-point) Microwave licensees in the new 1.8 GHz Personal Communications Service band. In the case of PCS, the awardee of a license must pay for the relocation of the existing fixed licensees to "comparable facilities," meaning that they must license, install and test a new system for the licensee and switch him over to it, all at no cost. If the new system proves

New SMRS Spectrum Blocks

Base	Mobile
A (20 channel block)	
861.0125-861.4875 MHz	816.0125-816.4875
B (40 channel block)	
861.5125-862.9875	816.5125-817.9875
C (60 channel block)	
863.0125-865.9875	818.0125-820.9875

unsatisfactory, they must pay to relocate him back! Note that in the case of PCS, a "new facility" doesn't necessarily have to be another microwave system—a licensee could be moved to a common carrier fiber optic system, as an example.

But in the case of SMRS systems, this pretty much means relocating licensees from the 861 to 866 MHz segment to vacant channels in the remaining 851 to 856 MHz segment—if any. In this proceeding the FCC is also reallocating the channels in the segment from 851.0125 through 854.7375 to the Specialized Mobile Radio Service. These 150 channels had been available, since 1978, for conventional (non-trunked) systems. In 1990, they were reallocated to a new "General Category," available for both conventional systems and expansion of existing trunked systems operating on higher frequencies. These channels will now be available in the SMRS and, although there is a freeze in effect for applications for new 800 MHz licenses, the Commission is partially lifting it, for parties applying for these "General Category" channels, only for the purpose of vacating the upper five MHz.

Like the PCS procedure, existing licensees will be subject to a one-year voluntary negotiation period, during which a relocation agreement may be reached with a new "EA" provider. This will undoubtedly prove advantageous, since the new provider will probably offer a much greater incentive for the existing licensees to vacate the band as soon as possible. They might be offered far superior replacement equipment, if needed, or a location at a more desirable transmitter site. (Or more money.) Within ninety days from the date of their license grant, EA licensees must provide written notification to all incumbents they intend to relocate.

If no agreement is reached between the EA licensee and incumbent licensees during the voluntary period, the EA licensee may initiate a two-year mandatory negotiation period, during which the parties are required to negotiate in "good faith." In the event that the parties still fail to reach an agreement during this second phase, the EA licensee may request involuntary relocation of the incumbent's system. In such a case, the EA licensee must, of course, pay all cost of relocating the incumbent to a comparable facility, complete all activities necessary for placing the new facilities into operation, including engineering and frequency coordination, if necessary, and build and test the new system. The transition must be an absolutely "seamless" transition from the incumbents "old" frequency to its "relocated" frequency. There can be no significant disruption in the incumbent's operations, which will likely entail the operation of two, simulcast systems until all users are changed to the new system.

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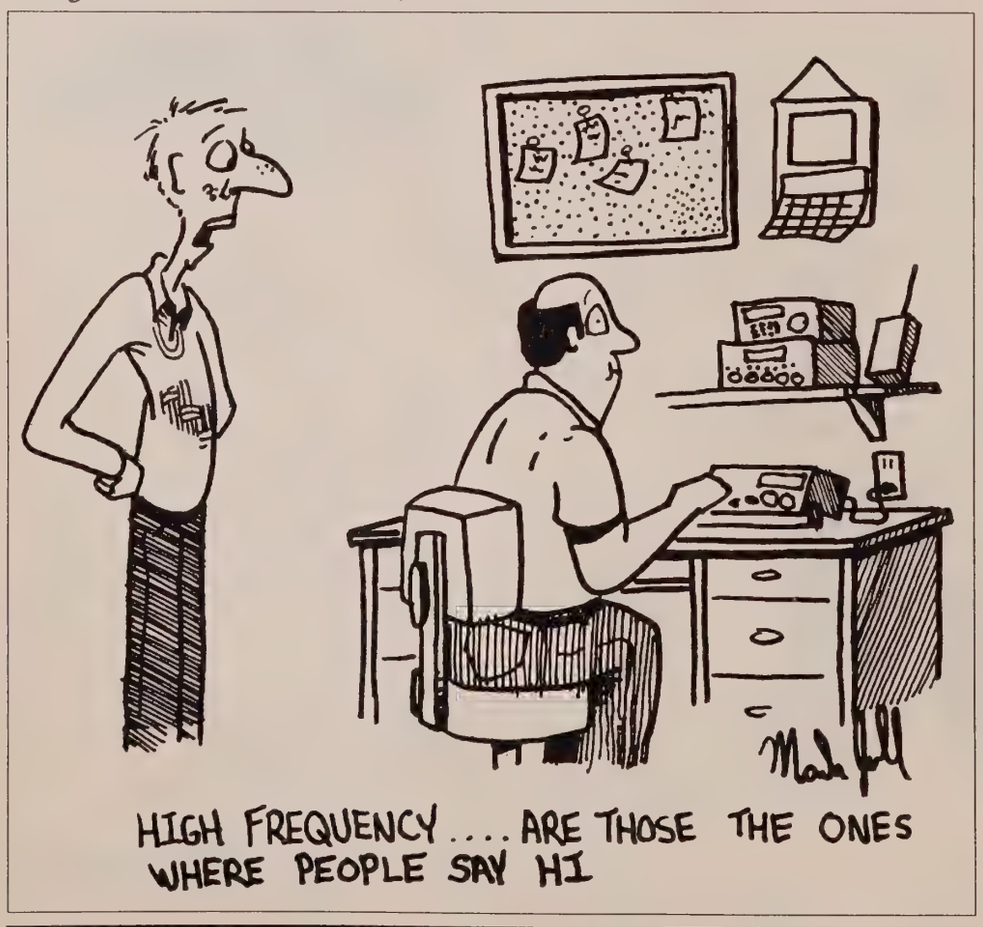
If the new provider is unable to relocate an existing licensee, he must allow him to continue operation on his existing frequencies and must provide interference protection to his station.

There are 172 EA's in the continental U.S., with additional areas established for Alaska and Hawaii and the U.S. possessions. The 525 EA licenses (three blocks in each area, remember) will be awarded in a single simultaneous multiple round auction. Both incumbents and new entrants are eligible to bid for all EA licenses, subject only to the 45 MHz total spectrum limit for Commercial Mobile Radio Service (CMRS) licensees. There are the usual rules regarding preferences for minority and women-owned businesses and the conditions and requirements for participating in the auctions, including the mandatory "up-front" deposit to participate.

License terms will be for ten-years, with a five-year construction period from the date the EA license is granted. Licensees will be required to provide coverage to one-third of the population of their EA within three years after initial grant of the EA license, and coverage of two-thirds of the EA population by the end of the five-year period. Since a licensee could meet these requirements by putting one channel into use, there is also a requirement that they implement 50 percent of the total channels included in their spectrum blocks in at least one location in their EA within three years of initial license grant. A license will be subject to automatic cancellation for failure to meet these requirements.

Licensees will be authorized to construct stations at any available site and on any available channel within their respective spectrum blocks and service area (unless there is an incumbent licensee still using the frequency, of course). They may expand or modify facilities anywhere in their service area without prior Commission approval, so long as the system continues to comply with applicable technical and operational rules and adequately protects existing licensees remaining in the band. However, they will be required to notify the FCC of these changes. This is to ensure continued protection for the current licensees until they have been relocated. Licensees have full discretion over channelization of available spectrum within the block, on the condition that emission mask requirements are met, and co-channel interference protection is afforded to any existing licensees and licensees in neighboring EA's.



The Legalities

So how is the FCC getting away with this? The legislation that gave them the authority to award license by competitive bidding permits auctions only where: "(1) mutually exclusive applications for initial licenses or construction permits are accepted for filing by the Commission and (2) the principal use of the spectrum will involve or is reasonably likely to involve the receipt by the licensee of compensation from subscribers in return for enabling those subscribers to receive or transmit communications signals." The authority extended to the Commission by Congress states that it applies only to issuance of new authorizations, supposedly in newly allocated services. Congress wrote it with the new Personal Communications Service specifically in mind. So how does it apply to the SMRS, an existing service with lots of existing licensees?

Well, first of all, as the Commission notes, Section 309(j) of the Communications Act does not distinguish between new services (such as PCS) and existing services in terms of whether "initial licenses" should be subject to competitive bidding. The FCC simply concluded that (to quote here) "We emphasize that the use of auctions will apply only to issuance of initial licenses in the upper 10 MHz block, the EA licenses. These EA licenses previously have not been issued by the Commission." There's no arguing with that, is there?!

Furthermore, even though they are tossing out all the current users to create the opportunity to award these "initial licenses," they observe that this action "does not affect rights afforded to licensees under existing authorizations, because incumbent licensees will be able to continue to operate their systems. Even though incumbents will be

subject to mandatory relocation under certain circumstances, their existing operations will be protected, and include certain rights and obligations that previously were not granted to or required of licensees."

"Accordingly, we conclude that our determination that the 800 MHz SMR service is auctionable is fully consistent with Section 309(j) of the Communications Act." So that settles that!

The Future?

The FCC believes that this action (to quote) "will facilitate the rapid implementation of wide-area licensing in the 800 MHz SMR service, thus advancing the public interest by fostering economic growth of competitive new services via efficient spectrum use." It will also "allow the public to recover a portion of the value of the public spectrum and promote expeditious access to 800 MHz SMR services by consumers, and rapid deployment of 800 MHz SMRS by existing licensees and potential new entrants."

This all sounds good but it sure will change the face (and sound) of the 800 MHz band. Most of these new systems will be completely digital, similar to those already operating. Most of the users of these systems will be businesses, so many scanner enthusiasts are probably not too concerned yet. (This may be the impetus for an enterprising scanner manufacturer to incorporate digital demodulating circuitry into their new models, once a predominate digital standard emerges. Remember, the ECPA does not prohibit the monitoring of digital emissions unless they are encrypted).

But what about all of the current trunked SMRS systems in the 861 to 866 MHz band? These were the first 200 channels allocated in the 851 MHz band, back in '74. Some of these systems have been around for twenty years! There are NO vacant channels in the SMRS is almost every major city in the country, so many of the existing systems will have to be allowed to continue operation on their existing frequencies and the "new" systems built around them. And I'd guess that many smaller trunked system owners will probably just sell out, leaving their customers to find alternative systems. And, of course, there's the fact that a couple of the potential players in the "new SMRS" game have been licensing on unused conventional channels or buying out existing systems for some time now, with the obvious intention of having these frequencies available to relocate existing SMRS systems to. The FCC's own rules prohibit the "warehousing" of frequencies, but under the excuse that they were applying for waivers for wide-area systems, certain companies have been allowed to obtain licenses for huge numbers of 800 MHz channels in this manner.

(Opinion Department) The irony of all of this is that the FCC did all they could to encourage the use of spectrum-efficient trunked technology in this band. Now, the trunked systems that have been serving two-way radio customers for all of these years aren't spectrum-efficient enough. As a reward, they are getting bumped off their frequencies! Furthermore, the Commission keeps talking about how they want SMRS systems to be competitive with Cellular and other CMRS services. *Why*? They serve different purposes and cater to different customers. What is Joe Plumber going to do when he wants affordable two-way communications after the 800 MHz Land Mobile band has been turned into a "quasi-cellular" band? And finally, exactly how much does the FCC think they are going to get in the auctions for the new EA blocks? Who is going to bid for them? All you get is A SHOT at building a system! It assumes that you can clear the spectrum you bought, finding homes for all the current licensees. Nextel is the only company currently is a position to do this.

Like I said, whatever happens, it is certainly likely to change the look of the 800 MHz band.

This proceeding doesn't end here. After all, there are still other channels in the 800 MHz band that could be auctioned! So along with this Report

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and Order, the FCC has released a Notice of Proposed RuleMaking that would allow them to reallocate and auction off the SMRS channels in the rest of the 851 to 866 MHz band. There are 80 SMRS channels between 856 and 861 MHz and they are proposing to auction them in sixteen five-channel blocks. (In the original proposal in this proceeding, these 80 channels were supposed to continue to be available to local SMRS operators!) And, of course, there are the General Category channel blocks (which are now SMRS channels) that could also be auctioned off for a buck or two. They are not proposing a mandatory relocation plan for these channels. Existing licensees would be allowed to continue to operate under their current authorizations, with new licensees required to provide co-channel interference protection to all constructed and operating systems within their new license area. There would be no limit on the number of "lower 80" and General Category frequencies that a single applicant could request at one time. If they adopt this Further Proposal, any existing licensee that has been relocated from frequencies within the upper 5 MHz block will not be required to relocate again.

Not only that, there is another proposal to reallocate and reassign the frequencies currently allocated in the Common Carrier and Private Carrier Paging services, auctioning them off in an almost identical manner as the SMRS frequencies!

Auction Revenues

In April, the FCC issued a News Release bragging about how they had reached the $20 billion mark in total auction revenues to be deposited with the U.S. Treasury. As they noted, "the agency has completed a total of six spectrum auctions and two others are still in progress. These auctions include: Nationwide Narrowband PCS at 900 MHz, Interactive Video and Data Services (IVDS) at 219 MHz, Regional Narrowband PCS, two of the Broadband PCS blocks at 1800 MHz, Direct Broadcast Satellite, Multipoint Distribution Service and the 900 MHz Specialized Mobile Radio Service."

FCC Chairman Reed Hundt stated "We have exceeded all expectations. Auctions have proven once again to be a success not only by awarding licenses to those that value them the most, but also by decreasing the national debt."

"The FCC's upcoming auction schedule is very active. This summer it plans to auction the spectrum for the Personal Communications Services D, E and F Blocks. Licenses in this service will award winners with 10 MHz spectrum to be used for PCS." **USSN**

TECHNICAL STUFF

Improving Uniden's Data Skip and The Seeker 800 Gain Rubber Duck

by Steve Donnell, WA1YKL

Uniden's Data Skip

One potentially useful feature that has been seen in many of Uniden's scanners for the past couple of years is a function called the Data Skip. This feature permits the radio to scan or search past a frequency that has either no audio modulation present on it or has some type of continuous audio tone. This latter criteria is largely limited to signals such as the "idle tone" on old IMTS mobile telephone channels found in the 152 and 454 MHz areas, and with the preamble tones used in certain formats of high speed digital paging.

While the "as designed" capabilities of Data Skip do have certain merits, this feature is completely useless against the much more common problem of various "data channels" that inhabit much of the 800 MHz band. In particular, this includes the Motorola 800 MHz trunked radio systems. Even though these channels transmit a continuous data stream beacon, the Data Skip feature on scanners like the BC9000 will not permit the radio to scan or search past them. I believe this has to do with the slightly non-symmetrical nature of the data modulation, as compared with the perfectly symmetrical and uniform nature of a solid audio tone.

The circuitry for the Data Skip function is comprised of one half of IC-39, which is configured as a high gain amplifier. The amplifier intentionally over amplifies, or "clips," the detected FM audio signal. This is to help produce a signal of uniform level and to boost the original signal level to

a point that can be properly analyzed by the radio's CPU.

One characteristic modulation "signature" the CPU looks for to correctly recognize a signal with voice modulation on it (as compared with a tone or data signal) is that when voice audio, is looked at over a period of a couple of seconds, it does not have a continuous energy pattern. It will have certain breaks and pauses between words and sentences. A tone or data transmission will have a continuous, non-broken energy pattern to it.

One ideas I had to correct this condition was to use the output from IC-39 to VOX-gate an on-board audio oscillator that would feed a nice, uniform signal into the CPU, which it would identify as undesirable. An even simpler way, I reasoned, that would work just as well, would be to devise a way to mute the audio as it was applied into the CPU. This would permit the Data Skip to retain all of it's original functionality, and yet be able to identify any FM signal with an uninterrupted audio energy pattern, with a continuous duration of at least 3 seconds, and recognize it as an undesirable signal.

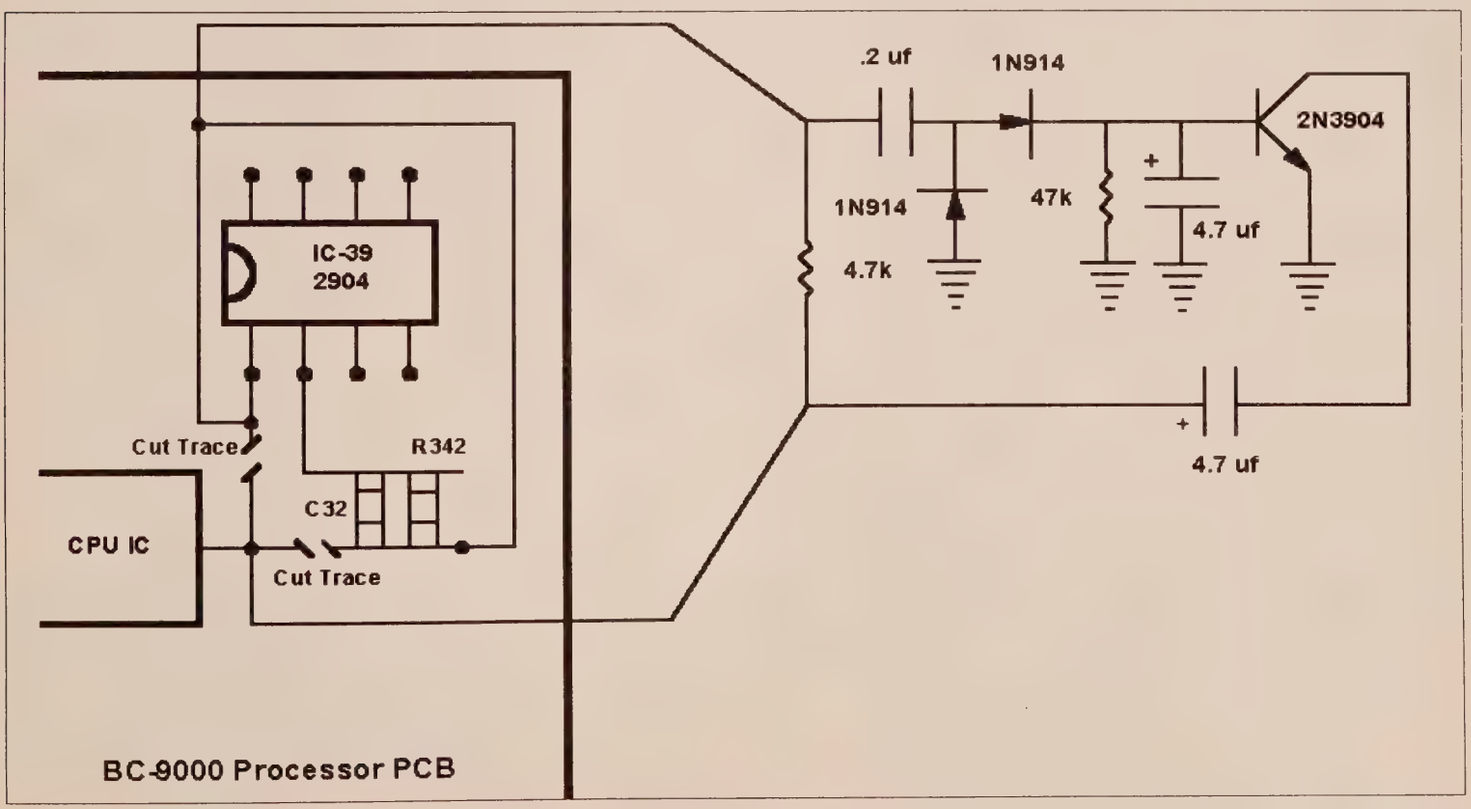
Take a look at the circuit shown in the diagram. Its input is tied to the pin 1 output of the IC-39 Data Skip amplifier. The received audio waveform is rectified into a DC–bias voltage, which is used to control the transistor. When the transistor is turned ON, it effectively mutes the audio going into the CPU. The 4.7K resistor is used to isolate the signal path between IC39 and the input of the CPU. This prevents the transistor from loading down its own audio–signal source.

IC39, for a BC9000, is located on the radio's main PC board, but it is hidden under the shielded area near the front. Carefully pry off the shield cover. IC39 is the eight-lead IC, located on the far right side, in the rear corner. Use a sharp hobby knife to cut a break across the circuit trace that connects to pin 1. Scrape off a small amount of the green insulation covering the free end of the circuit trace that you just cut. This will permit you to solder to the trace. Bridge across the free end of the trace and pin 1 of IC39 with the 4.7K resistor. You will also need to make a cut in the same PC trace that elbows off to the right. Then connect a short jumper lead from the far end of the surface mount resistor and capacitor back over to pin 1 of IC39 as shown in the diagram.

This circuit enables the CPU to "see" any signal with continuous audio modulation on it as a continuously quiet signal instead. Typical voice signals do not permit the transistor to be continuously activated. In addition to using this circuit as a very effective way to bypass data signal transmissions in the 800 MHz band, I also noticed that it works equally well against telemetry data signals in the 450 MHZ band, which it was not able to do previously.

Although I initially designed this circuit to work with the BC9000 scanner, it should also operate with the BC860, along with Radio Shack's new PRO-2040, both of which use a similarly-designed Data–Skip feature. If you were able to fabricate the circuit small enough you could conceivably use it to improve the same Data Skip feature in a BC220 and BC3000 as well as the Radio Shack PRO-26, all of which suffer from an inability to reject 800 MHz trunking data signals. To install this circuit in the BC860, you would connect it in-line with the pin 14 signal output on IC4. To install this in a PRO-2040, connect it in-line with the pin 7, signal output on IC4.

As usual, we highly recommend that you obtain a copy of your radios service manual before doing any kind of internal circuitry work. If you are not



comfortable with doing work on the highly miniaturized circuits of your scanner, have a friend who is proficient help you.

The Seeker 800 Antenna

I recently discovered a very good antenna, The Seeker 800 gain rubber duck. Though primarily intended as an antenna for 800 MHz use it will, of course, produce fair-to-good reception in the lower VHF and UHF bands as well. Testing reveals that the Seekers peak tuning response, and hence its peak efficiency, is centered at about 884 MHz. Which just happens to be slightly above the midpoint of the Cellular telephone band. See test plot 1.

The narrow bandwidth of the Seeker's tuning response is typical of what might be expected in a halfwave antenna design. A similar duck antenna that I have, one sold by Radio Shack as a replacement antenna for portable cell phones, does not have nearly as good of a tuning response. It is centered about 30 MHz lower down the band.

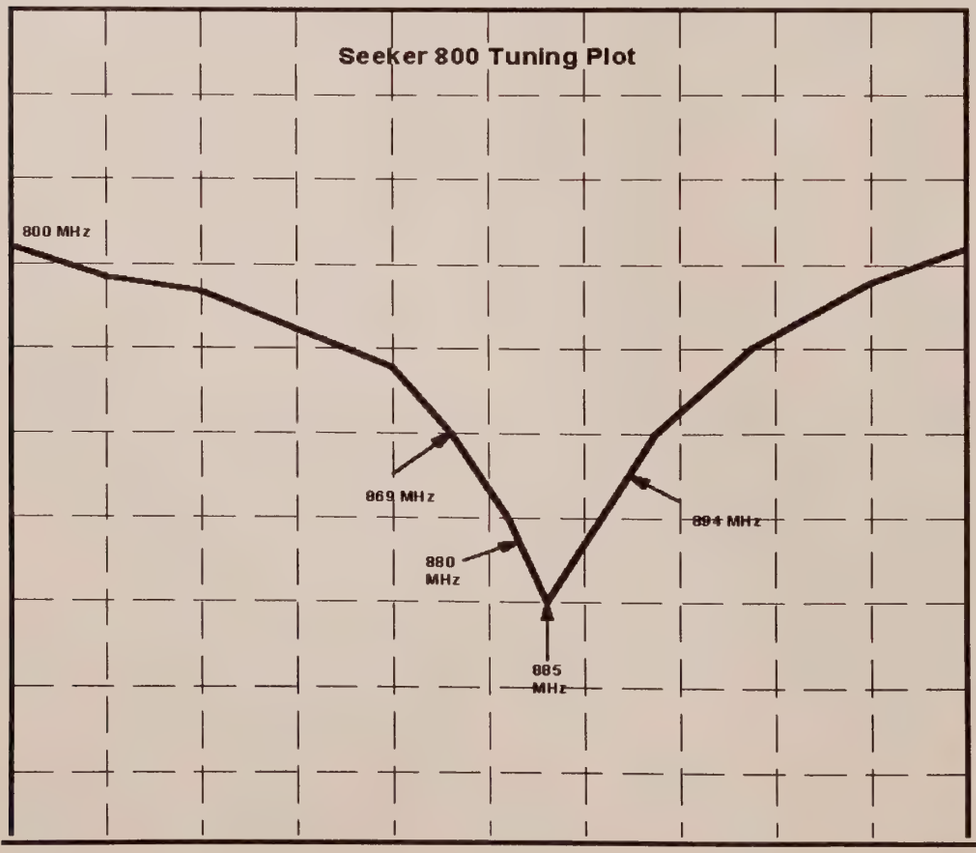
In comparing the gain performance of the Seeker against the Radio Shack duck, I used my AR8000 as a test receiver. As expected, it was hard to delineate any major differences between the two antennas when receiving strong signals. But when checking with most weaker signals, those showing no more than three or four S unit bars on the 8K's display, the Seeker readily produced a reading one S unit higher when compared to the Radio Shack duck. I was even more surprised when I also compared the Seeker against my GRE all-band duck, which I consider to be my standard reference duck. The Seeker beat out the GRE duck by three to four S units!

The Seeker measures ten and a half inches tall and is sheathed in grey vinyl and, of course, uses a BNC connector (most cell phone antennas have a TNC style connector that requires the use of an adapter in order to use them with a scanner). The Seeker has a tapered diameter design with a ridged lower half and a flexible upper half. One complaint about the structure of the Seeker is its use of a plastic cowling at its base. Not only does this give the Seeker a somewhat larger than normal appearance, but because of its wider than usual diameter, it prevents the Seeker from being used with the PRO-26 scanner, or any other similar portable scanners that have a slightly recessed BNC connector.

Overall, I am very impressed with the performance of the Seeker 800 gain ducky. I highly recommend it for anyone who requires an antenna with maximum efficiency across the upper portion of the 800 MHZ band. The Seeker 800 is available for $37.99 (plus $4.49 S&H) from Radioware, PO box 1478, Westford, MA 01886 Tel.1-800-950-WARE.

Next month we hope to have some test results for the OptoElectronics CF-802, filter preamp for the 830 MHz band.

USSN



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FREQUENCY FORUM

Public Safety License Applications

The information in this column is raw FCC data and may contain duplications and typos. Listed below are Public Safety licenses that are ***PENDING*** FCC approval. Note that many of these may be licenses for additional transmitter sites or renewals of expired licenses and may not be "new" frequencies.

Services Represented

GF	Conventional PS-National Plan	PP	Police
GP	Conventional PS & Spc Emerg	PS	Special Emergency
PF	Fire	YA	Trunked PS
PH	Highway Maintenance	YF	Trunked PS-National Plan
PL	Local Government	YP	Trunked PS & Special Emerg.
PM	Emergency Medical	IB	Business Radio Service
PO	Forestry Conservation	IW	Power Radio Sevice

by O.E. Simonson

Alaska

ANCHORAGE	ANCHORAGE, MUNICIPALITY OF	PNR12242	155.8650	PL
ANCHORAGE	ANCHORAGE, MUNICIPALITY OF	PNR12242	155.8800	PL
GIRDWOOD	ANCHORAGE, MUNICIPALITY OF	PNR12242	155.8650	PL
GIRDWOOD	ANCHORAGE, MUNICIPALITY OF	PNR12242	155.8800	PL

Alabama

	CLAY, COUNTY OF	PND02583	154.8750	PL
	CLAY, COUNTY OF	PND02583	154.9650	PL
	CLAY, COUNTY OF	PND02583	155.0100	PL
	CLAY, COUNTY OF	PND02583	155.6400	PL
	CLAY, COUNTY OF	PND02583	160.1400	PL
	GRIMES, TOWN OF	PND02577	155.0100	PP
	GRIMES, TOWN OF	PND02577	155.0400	PL
	GRIMES, TOWN OF	PND02577	155.5500	PP
	TALLAPOOSA, COUNTY OF	PND01703	151.2350	PP
	TALLAPOOSA, COUNTY OF	PND01703	154.6500	PP
	TALLAPOOSA, COUNTY OF	PND01703	154.8150	PP
	TALLAPOOSA, COUNTY OF	PND01703	155.0100	PP
	TALLAPOOSA, COUNTY OF	PND01703	156.0300	PP
ADAMSVILLE	BIRMINGHAM JEFFERSON CO. EMA	PNR12827	458.3000	PL
ALEXANDER	TALLAPOOSA, COUNTY OF	PND01703	151.2350	PP
ALEXANDER	TALLAPOOSA, COUNTY OF	PND01703	154.6500	PP
ALEXANDER	TALLAPOOSA, COUNTY OF	PND01703	154.8150	PP
ALEXANDER	TALLAPOOSA, COUNTY OF	PND01703	156.0300	PP
ANDALUSIA	ANDALUSIA, CITY OF	PNA00014	154.7400	PP
ANDALUSIA	ANDALUSIA, CITY OF	PNA00014	155.0100	PP
ANDALUSIA	ANDALUSIA, CITY OF	PNA00014	155.9550	PL
ANDALUSIA	ANDALUSIA, CITY OF	PNA00014	156.0900	PP
ANDALUSIA	ANDALUSIA, CITY OF	PNA00030	155.7750	PL
ASHLAND	ASHLAND, CITY OF	PND02582	159.9150	PL
BAY MINETT	BALDWIN, COUNTY OF	PND02786	155.0100	PP
BAY MINETT	BALDWIN, COUNTY OF	PND02786	155.3700	PP
BESSEMER	BIRMINGHAM JEFFERSON CO. EMA	PNR12826	458.3000	PL
BIRMINGHAM	BIRMINGHAM JEFFERSON CO. EMA	PNR12827	458.3000	PL
BIRMINGHAM	BIRMINGHAM JEFFERSON CO. EMA	PNR12828	458.3000	PL
DADEVILLE	TALLAPOOSA, COUNTY OF	PND01703	151.2350	PP
DADEVILLE	TALLAPOOSA, COUNTY OF	PND01703	154.6500	PP
DADEVILLE	TALLAPOOSA, COUNTY OF	PND01703	154.8150	PP
DADEVILLE	TALLAPOOSA, COUNTY OF	PND01703	155.0100	PP
DADEVILLE	TALLAPOOSA, COUNTY OF	PND01703	156.0300	PP
DOUBLE SPR	DOUBLE SPRINGS, CITY OF	PNA00011	155.0250	PL
DOUBLE SPR	DOUBLE SPRINGS, CITY OF	PNA00011	158.8050	PL
FAIRFIELD	BIRMINGHAM JEFFERSON CO. EMA	PNR12826	458.3000	PL
FLORENCE	FLORENCE, CITY OF	PND02765	155.0100	PP
FLORENCE	FLORENCE, CITY OF	PND02765	453.3500	PP
FLORENCE	FLORENCE, CITY OF	PND02765	453.5000	PP
FLORENCE	FLORENCE, CITY OF	PND02765	458.3500	PP
FLORENCE	FLORENCE, CITY OF	PND02765	458.5000	PP
FLORENCE	FLORENCE, CITY OF	PND02765	460.1000	PP
FLORENCE	FLORENCE, CITY OF	PND02765	460.1250	PP
FLORENCE	FLORENCE, CITY OF	PND02765	460.1500	PP
FLORENCE	FLORENCE, CITY OF	PND02765	460.1750	PP
FLORENCE	FLORENCE, CITY OF	PND02765	460.5250	PP
FLORENCE	FLORENCE, CITY OF	PND02765	465.1000	PP
FLORENCE	FLORENCE, CITY OF	PND02765	465.1250	PP
FLORENCE	FLORENCE, CITY OF	PND02765	465.1500	PP
FLORENCE	FLORENCE, CITY OF	PND02765	465.1750	PP
FULTONDALE	BIRMINGHAM JEFFERSON CO. EMA	PNR12826	458.3000	PL
GARDENDALE	BIRMINGHAM JEFFERSON C. EMA	PNR12827	458.3000	PL
GARDENDALE	GARDENDALE, CITY OF	PNA00027	154.6650	PL
GARDENDALE	GARDENDALE, CITY OF	PNA00027	159.1500	PL
GRAYSVILLE	BIRMINGHAM JEFFERSON CO. EMA	PNR12828	458.3000	PL
HOMEWOOD	BIRMINGHAM JEFFERSON CO. EMA	PNR12827	458.3000	PL
HOOVER	BIRMINGHAM JEFFERSON CO. EMA	PNR12828	458.3000	PL
HUEYTOWN	BIRMINGHAM JEFFERSON CO. EMA	PNR12826	458.3000	PL
IRONDALE	BIRMINGHAM JEFFERSON CO. EMA	PNR12827	458.3000	PL
LEEDS	BIRMINGHAM JEFFERSON CO. EMA	PNR12827	458.3000	PL
LINCOLN	LINCOLN, TOWN OF	PNR10688	158.8650	PL
LINCOLN	LINCOLN, TOWN OF	PNR10689	155.0100	PP
LINCOLN	LINCOLN, TOWN OF	PNR10689	158.7300	PP
LINEVILLE	CLAY, COUNTY OF	PND02583	154.8750	PL
LINEVILLE	CLAY, COUNTY OF	PND02583	154.9650	PL
LINEVILLE	CLAY, COUNTY OF	PND02583	155.0100	PL
LINEVILLE	CLAY, COUNTY OF	PND02583	155.6400	PL
LINEVILLE	CLAY, COUNTY OF	PND02583	160.1400	PL
MALBIS	BALDWIN, COUNTY OF	PND02786	155.0100	PP
MALBIS	BALDWIN, COUNTY OF	PND02786	156.1500	PP
MALBIS	BALDWIN, COUNTY OF	PND02786	156.2100	PP
MALBIS	BALDWIN, COUNTY OF	PND02786	159.0900	PP
MIDFIELD	BIRMINGHAM JEFFERSON CO. EMA	PNR12826	458.3000	PL
MOBILE	ALABAMA, STATE OF	PNR12546	866.0125	YF
MOBILE	ALABAMA, STATE OF	PNR12546	866.5125	YF
MOBILE	ALABAMA, STATE OF	PNR12546	867.0125	YF
MOBILE	ALABAMA, STATE OF	PNR12546	867.5125	YF
MOBILE	ALABAMA, STATE OF	PNR12546	868.0125	YF
MT BROOK	BIRMINGHAM JEFFERSON CO. EMA	PNR12826	458.3000	PL
ORANGE BEA	ORANGE BCH VOLUNTEER FIRE DEPT	PND02730	154.3250	PF
ORANGE BEA	ORANGE BCH VOLUNTEER FIRE DEPT	PND02730	159.0600	PF
PLEASANT G	BIRMINGHAM JEFFERSON CO. EMA	PNR12828	458.3000	PL
RABUN	ALABAMA, STATE OF	PNR12546	866.4125	YF
RABUN	ALABAMA, STATE OF	PNR12546	866.9125	YF
RABUN	ALABAMA, STATE OF	PNR12546	867.4125	YF
RABUN	ALABAMA, STATE OF	PNR12546	868.4125	YF
TARRANT	BIRMINGHAM JEFFERSON CO. EMA	PNR12826	458.3000	PL
TRUSSVILLE	BIRMINGHAM JEFFERSON CO. EMA	PNR12827	458.3000	PL
VESTAVIA	BIRMINGHAM JEFFERSON CO. EMA	PNR12827	458.3000	PL
WARRIOR	BIRMINGHAM JEFFERSON CO. EMA	PNR12827	458.3000	PL

Arkansas

	HOUSING AUTHORITYCITY OF	PND01703	153.9650	PL
	HOUSING AUTHORITY CITY OF	PND01703	155.6400	PL
ALEXANDER	ARKANSAS, STATE OF	PNR12821	37.1400	PP
ALEXANDER	ARKANSAS, STATE OF	PNR12821	37.2400	PP
BENTON	SALINE COUNTY MEDICAL CENTER	PND02766	155.3550	PS
BENTON	SALINE COUNTY MEDICAL CENTER	PND02766	163.2500	PS
CAMDEN	CAMDEN, CITY OF	PND02583	173.2875	PL
CAMDEN	CAMDEN, CITY OF	PND02584	173.2875	PL
CAMDEN	CAMDEN, CITY OF	PND02765	173.3900	PL
CROSSETT	UNITY FROST PRAIRIE FIRE DEPARTM	PND02627	154.1300	PF
CROSSETT	UNITY FROST PRAIRIE FIRE DEPARTM	PND02627	154.2050	PF
CROSSETT	UNITY FROST PRAIRIE FIRE DEPARTM	PND02627	159.0000	PF
FORDYCE	FORDYCE, CITY OF	PND01278	173.3962	PL
FORREST CI	ARKANSAS HOSPITAL ASSOCIATION	PNR12365	155.2350	PS
FORREST CI	ARKANSAS HOSPITAL ASSOCIATION	PNR12365	155.3400	PS
GREEN FORE	CARROLL, COUNTY OF	PNA00030	153.9950	PL
GREEN FORE	CARROLL, COUNTY OF	PNA00030	159.0900	PL
HARRISON	ARKANSAS HOSPITAL ASSOCIATION	PNR12365	155.2350	PS
HARRISON	ARKANSAS HOSPITAL ASSOCIATION	PNR12365	155.3400	PS
JACKSONPOR	JACKSONPORT VOL. FIRE DEPAR	PND02729	154.1600	PF
MALVERN	HOT SPRING COUNTY MEDICAL CNT	PND02833	155.3400	PS
MALVERN	HOT SPRING COUNTY MEDICAL CNT	PND02833	155.3850	PS
MENA	HOUSING AUTHORITY CITY OF	PND01703	155.6400	PL
MORRILTON	CONWAY, COUNTY OF	PNA00015	155.5950	PL
MORRILTON	CONWAY, COUNTY OF	PNA00015	159.1500	PL
MORRILTON	CONWAY, COUNTY OF	PNA00015	173.3125	PL
NOB HILL	NOB HILL VOLUNTEER FIRE ASSO	PNR12784	154.2800	PF
NOB HILL	NOB HILL VOLUNTEER FIRE ASSO	PNR12784	154.3250	PF
NOB HILL	NOB HILL VOLUNTEER FIRE ASSO	PNR12784	154.3550	PF
PINE BLUFF	AMERICAN RED CROSS	PNR12820	37.1400	PP
PINE BLUFF	AMERICAN RED CROSS	PNR12820	37.2400	PP
POLLARD	CLAY, COUNTY OF	PND01707	155.2500	PP
POLLARD	CLAY, COUNTY OF	PND01707	158.9250	PP
SPRINGDALE	ARKANSAS HOSPITAL ASSOCIATION	PNR12364	155.2800	PS

Arizona

	MOHAVE CO. FIRE OFFICERS ASSO	PND02570	153.8900	PF
	MOHAVE CO. FIRE OFFICERS ASSO	PND02570	154.3550	PF
	MOHAVE, COUNTY OF	PND02626	155.1600	PS
	RURAL METRO FIRE DEPT INC	PNR12799	153.8900	PF
	RURAL METRO FIRE DEPT INC	PNR12799	154.3700	PF
	RURAL METRO FIRE DEPT INC	PNR12799	154.4000	PF
AJO	ARIZONA, STATE OF	PND02580	44.6600	PP

AJO	ARIZONA, STATE OF	PND02580	154.9350	PP
AJO	ARIZONA, STATE OF	PND02580	155.4750	PP
AJO	ARIZONA, STATE OF	PND02580	460.2250	PP
AJO	ARIZONA, STATE OF	PND02580	460.3000	PP
AJO	ARIZONA, STATE OF	PND02580	460.3750	PP
AJO	ARIZONA, STATE OF	PND02580	460.4000	PP
AJO	ARIZONA, STATE OF	PND02580	460.5000	PP
AQUA CALIE	ARIZONA, STATE OF	PND02579	44.6600	PP
AQUA CALIE	ARIZONA, STATE OF	PND02579	154.9350	PP
AQUA CALIE	ARIZONA, STATE OF	PND02579	155.4750	PP
AQUA CALIE	ARIZONA, STATE OF	PND02579	156.0900	PP
AQUA CALIE	ARIZONA, STATE OF	PND02579	460.2250	PP
AQUA CALIE	ARIZONA, STATE OF	PND02579	460.3000	PP
AQUA CALIE	ARIZONA, STATE OF	PND02579	460.3750	PP
AQUA CALIE	ARIZONA, STATE OF	PND02579	460.4000	PP
AQUA CALIE	ARIZONA, STATE OF	PND02579	460.5000	PP
BUMBLEBEE	ARIZONA, STATE OF	PND02580	156.0900	PP
BUMBLEBEE	ARIZONA, STATE OF	PND02580	460.3000	PP
BUMBLEBEE	ARIZONA, STATE OF	PND02580	460.3250	PP
BUMBLEBEE	ARIZONA, STATE OF	PND02580	460.4250	PP
COLORADO C	COLORADO CITY FIRE DISTRICT	PND02546	153.8300	PF
COLORADO C	COLORADO CITY FIRE DISTRICT	PND02546	154.1300	PF
COLORADO C	COLORADO CITY FIRE DISTRICT	PND02546	154.3850	PF
COLORADO C	COLORADO CITY FIRE DISTRICT	PND02546	154.4150	PF
GREEN VALL	RURAL METRO FIRE DEPT INC	PNR12799	153.8900	PF
GREEN VALL	RURAL METRO FIRE DEPT INC	PNR12799	154.4000	PF
KINGMAN	MOHAVE CO. FIRE OFFICERS ASSO	PND02570	154.3550	PF
KINGMAN	MOHAVE, COUNTY OF	PND02626	155.1600	PS
NOGALES	ARIZONA, STATE OF	PND02580	151.4750	PP
NOGALES	ARIZONA, STATE OF	PND02580	154.9350	PP
NOGALES	ARIZONA, STATE OF	PND02580	156.0900	PP
NOGALES	ARIZONA, STATE OF	PND02580	460.2250	PP
NOGALES	ARIZONA, STATE OF	PND02580	460.2750	PP
NOGALES	ARIZONA, STATE OF	PND02580	460.3250	PP
NOGALES	ARIZONA, STATE OF	PND02580	460.3750	PP
NOGALES	ARIZONA, STATE OF	PND02580	460.4250	PP
NOGALES	ARIZONA, STATE OF	PND02580	460.5000	PP
ORO VALLEY	ORO VALLEY, TOWN OF	PND01705	453.4750	PP
ORO VALLEY	ORO VALLEY, TOWN OF	PND01705	458.4750	PP
ORO VALLEY	ORO VALLEY, TOWN OF	PND01705	460.1000	PP
ORO VALLEY	ORO VALLEY, TOWN OF	PND01705	460.3750	PP
ORO VALLEY	ORO VALLEY, TOWN OF	PND01705	465.1000	PP
ORO VALLEY	ORO VALLEY, TOWN OF	PND01705	465.3750	PP
PHOENIX	ARIZONA, STATE OF	PND02579	154.9350	PP
PHOENIX	ARIZONA, STATE OF	PND02579	155.4750	PP
PHOENIX	ARIZONA, STATE OF	PND02579	156.0900	PP
PHOENIX	ARIZONA, STATE OF	PND02579	453.0500	PP
PHOENIX	ARIZONA, STATE OF	PND02579	460.0250	PP
PHOENIX	ARIZONA, STATE OF	PND02579	460.2250	PP
PHOENIX	ARIZONA, STATE OF	PND02579	460.2750	PP
PHOENIX	ARIZONA, STATE OF	PND02579	460.3000	PP
PHOENIX	ARIZONA, STATE OF	PND02579	460.3250	PP
PHOENIX	ARIZONA, STATE OF	PND02579	460.3750	PP
PHOENIX	ARIZONA, STATE OF	PND02579	460.4000	PP
PHOENIX	ARIZONA, STATE OF	PND02579	460.4250	PP
PHOENIX	ARIZONA, STATE OF	PND02579	460.5000	PP
PHOENIX	PHOENIX, CITY OF	PNR12839	153.7700	PF
PHOENIX	PHOENIX, CITY OF	PNR12839	153.8300	PF
PHOENIX	PHOENIX, CITY OF	PNR12839	154.0700	PF
PHOENIX	PHOENIX, CITY OF	PNR12839	154.1450	PF
PHOENIX	PHOENIX, CITY OF	PNR12839	154.1900	PF
PHOENIX	PHOENIX, CITY OF	PNR12839	154.2500	PF
PHOENIX	PHOENIX, CITY OF	PNR12839	154.2800	PF
PHOENIX	PHOENIX, CITY OF	PNR12839	154.3100	PF
SAFFORD	ARIZONA, STATE OF	PND02582	154.9350	PP
SAFFORD	ARIZONA, STATE OF	PND02582	155.4750	PP
SAFFORD	ARIZONA, STATE OF	PND02582	156.0900	PP
SAFFORD	ARIZONA, STATE OF	PND02582	460.2250	PP
SAFFORD	ARIZONA, STATE OF	PND02582	460.2750	PP
SAFFORD	ARIZONA, STATE OF	PND02582	460.3000	PP
SAFFORD	ARIZONA, STATE OF	PND02582	460.3250	PP
SAFFORD	ARIZONA, STATE OF	PND02582	460.3750	PP
SAFFORD	ARIZONA, STATE OF	PND02582	460.4750	PP
SAFFORD	ARIZONA, STATE OF	PND02582	460.5000	PP
SCOTTSDALE	ARIZONA, STATE OF	PND02580	460.2750	PP
SCOTTSDALE	ARIZONA, STATE OF	PND02580	460.3250	PP
SCOTTSDALE	ARIZONA, STATE OF	PND02580	460.4000	PP
SCOTTSDALE	ARIZONA, STATE OF	PND02580	460.5000	PP
TONOPAH	TONOPAH VALLEY FIRE DEPT	PND02572	154.2050	PF
TONOPAH	TONOPAH VALLEY FIRE DEPT	PND02572	154.3250	PF
TUCSON	RURAL METRO FIRE DEPT INC	PNR12799	154.2800	PF
TUCSON	RURAL METRO FIRE DEPT INC	PNR12799	154.3700	PF
WICKENBURG	COMMUNITY HOSPITAL ASSN INC	PNR12939	152.0075	PS

California

	CALIFORNIA, STATE OF	PNA00031	453.1375	PL
	CALIFORNIA, STATE OF	PNA00031	458.1375	PL
	KINGS RIVER HARDWICK UNION SCH	PNR12720	155.2950	PS
	LAKE, COUNTY OF	PNA00013	453.7125	PL
	LAKE, COUNTY OF	PNA00013	458.7125	PL
	LOS ANGELES, COUNTY OF	PND02568	151.8650	IB
	LOS ANGELES, COUNTY OF	PND02568	154.5700	IB
	SANTA CLARA, COUNTY OF	PND02764	39.9200	PP
	SANTA CLARA, COUNTY OF	PND02764	154.6500	PP
	SANTA CLARA, COUNTY OF	PND02764	154.7400	PP
	SANTA CLARA, COUNTY OF	PND02764	154.8750	PP
	SANTA CLARA, COUNTY OF	PND02764	155.3700	PP
	SANTA CLARA, COUNTY OF	PND02764	155.7000	PP
	SANTA CLARA, COUNTY OF	PND02764	155.8500	PP
	SANTA CLARA, COUNTY OF	PND02764	156.1500	PP
	SANTA CLARA, COUNTY OF	PND02764	156.2100	PP
	SANTA CLARA, COUNTY OF	PND02765	39.0600	PP
	SANTA CLARA, COUNTY OF	PND02765	39.9200	PP
	SANTA CLARA, COUNTY OF	PND02765	154.6500	PP
	SANTA CLARA, COUNTY OF	PND02765	154.7400	PP
	SANTA CLARA, COUNTY OF	PND02765	154.8750	PP
	SANTA CLARA, COUNTY OF	PND02765	155.0700	PP
	SANTA CLARA, COUNTY OF	PND02765	155.3700	PP
	SANTA CLARA, COUNTY OF	PND02765	155.4150	PP
	SANTA CLARA, COUNTY OF	PND02765	155.7000	PP
	SANTA CLARA, COUNTY OF	PND02765	155.8500	PP
	SANTA CLARA, COUNTY OF	PND02765	156.1500	PP
	SANTA CLARA, COUNTY OF	PND02765	156.2100	PP
	SANTA CLARA, COUNTY OF	PND02765	159.2100	PP
	SIERRA MADRE, CITY OF	PND02570	154.2800	PF
	SIERRA MADRE, CITY OF	PND02570	154.3700	PF
BAKERSFIEL	CALIFORNIA, STATE OF	PND02581	159.3000	PO
BAKERSFIEL	KERN, COUNTY OF	PND02630	44.4200	PS
BANNING	CALIFORNIA, STATE OF	PNR11774	460.3750	PP
BURNEY	CALIFORNIA, STATE OF	PNA00016	855.4875	GP
BUTTONWILL	CALIFORNIA, STATE OF	PNA00025	42.0200	PP
BUTTONWILL	CALIFORNIA, STATE OF	PNA00025	42.1800	PP
BUTTONWILL	CALIFORNIA, STATE OF	PNA00025	42.3400	PP
BUTTONWILL	CALIFORNIA, STATE OF	PNA00025	42.6000	PP
CAMPBELL	CAMPBELL, CITY OF	PNA00021	482.3375	PP
CAMPBELL	CAMPBELL, CITY OF	PNA00021	482.4625	PP
CAMPBELL	CAMPBELL, CITY OF	PNA00021	485.3375	PP
CAMPBELL	CAMPBELL, CITY OF	PNA00021	485.4625	PP
CAMPBELL	LOS GATOS, TOWN OF	PND01250	484.8625	PP
CAMPBELL	LOS GATOS, TOWN OF	PND01250	487.8625	PP
CAPAY	CALIFORNIA, STATE OF	PND01704	42.4200	PP
CARMEL BY	CARMEL BY THE SEA, CITY OF	PNR12355	154.1750	PF
CARMEL BY	CARMEL BY THE SEA, CITY OF	PNR12355	154.3700	PF
CASTELLA	CALIFORNIA, STATE OF	PNA00016	855.4875	GP
CASTRO VAL	CALIFORNIA, STATE OF	PND01834	151.4150	PO
CASTRO VAL	CALIFORNIA, STATE OF	PND01834	159.4200	PO
CASTRO VAL	CALIFORNIA, STATE OF	PND01834	159.4350	PO
CITY OF IN	EL MONTE, CITY OF	PND02583	154.0850	PL
CITY OF IN	EL MONTE, CITY OF	PND02583	156.2400	PL
CLEARLAKE	LAKE, COUNTY OF	PNA00020	155.0700	PP
COBB	CALIFORNIA, STATE OF	PND01834	151.2350	PO
CORONA	BOWERS COMPANIES INC	PND01010	44.0200	PS
CORONA	BOWERS COMPANIES INC	PND01010	44.4000	PS
COVINA	COVINA, CITY OF	PND02730	154.0700	PF
COVINA	COVINA, CITY OF	PND02730	154.2650	PF
COVINA	COVINA, CITY OF	PND02730	154.2800	PF
COVINA	COVINA, CITY OF	PND02730	154.2950	PF
COVINA	COVINA, CITY OF	PND02730	154.8300	PF
COVINA	COVINA, CITY OF	PND02730	159.0900	PF
CRESCENT C	CRESCENT CITY, CITY OF	PND02420	155.5350	PP
CUPERTINO	SANTA CLARA, COUNTY OF	PND02765	155.7000	PP
CUPERTINO	SANTA CLARA, COUNTY OF	PND02765	156.2100	PP
CUPERTINO	SANTA CLARA, COUNTY OF	PND02765	158.2100	PP
DESCANSO	CALIFORNIA, STATE OF	PND02071	857.1250	GP
EL MONTE	EL MONTE, CITY OF	PND02583	154.0850	PL
FALL RIVER	CALIFORNIA, STATE OF	PNA00016	855.4875	GP
FRESNO	EL MONTE, CITY OF	PND02583	154.9500	PP
FRESNO	EL MONTE, CITY OF	PND02583	155.5200	PP
FRESNO	EL MONTE, CITY OF	PND02583	156.2100	PP
GILROY	SANTA CLARA, COUNTY OF	PND02764	156.1500	PP
GILROY	SANTA CLARA, COUNTY OF	PND02765	154.8750	PP
GILROY	SANTA CLARA, COUNTY OF	PND02765	155.4150	PP
GILROY	SANTA CLARA, COUNTY OF	PND02765	156.1500	PP
GILROY	SANTA CLARA, COUNTY OF	PND02765	156.2100	PP
GLENHAVEN	LAKE, COUNTY OF	PNA00020	155.1150	PL
GOLETA	CAMPBELL, CITY OF	PNA00021	453.9500	PL
HANFORD	KINGS RIVER HARDWICK UNION SCH	PNR12720	155.2950	PS
IDYLLWILD	CALIFORNIA, STATE OF	PNA00031	868.5375	GF
KELSEYVILL	LAKE, COUNTY OF	PNA00013	154.0250	PL
LAKE ALMAN	HAMILTON BRANCH FIRE PROT	PND02729	154.1900	PF
LAKE ALMAN	HAMILTON BRANCH FIRE PROT	PND02729	154.2350	PF
LAKEPORT	LAKE, COUNTY OF	PNA00013	154.0250	PL
LAKEPORT	LAKE, COUNTY OF	PNA00020	155.0700	PP
LAKEPORT	LAKE, COUNTY OF	PNA00020	155.6250	PP
LAKEPORT	LAKE, COUNTY OF	PNA00020	155.7900	PP
LAKEPORT	LAKE, COUNTY OF	PNA00020	155.9550	PL
LAKEPORT	LAKE, COUNTY OF	PNA00020	155.9700	PP
LAKEWOOD	LAKEWOOD, CITY OF	PN215628	153.8600	PL
LEBEC	KERN, COUNTY OF	PND02630	44.4200	PS
LEWISTON	CALIFORNIA, STATE OF	PNR11776	47.1000	PH
LONG BEACH	BOWERS COMPANIES INC	PND01010	44.0200	PS
LONG BEACH	BOWERS COMPANIES INC	PND01010	44.4000	PS
LONG BEACH	BOWERS COMPANIES INC	PND01010	47.6200	PS

LOS GATOS	LOS GATOS, TOWN OF	PND01250	484.8625	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.6875	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	482.8125	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.7125	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	482.8375	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.7375	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	482.8625	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.7625	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	482.8875	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.7875	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	482.9125	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.8125	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	482.9375	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.8375	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	482.9625	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.8625	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	482.9875	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.8875	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.0125	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.9125	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.0375	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.9375	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.0625	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.9625	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.0875	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.9875	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.1125	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	487.0125	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.1375	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	487.0375	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.1625	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	487.0625	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.1875	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	487.0875	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.2125	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	487.1125	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.2375	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	487.1375	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.2625	PP	MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	487.1625	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.2875	PP	MIDDLETOWN	CALIFORNIA, STATE OF	PND01704	42.4200	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.3125	PP	MIDDLETOWN	LAKE, COUNTY OF	PNA00020	155.0700	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.3375	PP	MIDDLETOWN	LAKE, COUNTY OF	PNA00020	155.9700	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.3625	PP	MONTROSE	BOWERS COMPANIES INC	PND01010	44.0200	PS
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.3875	PP	MONTROSE	BOWERS COMPANIES INC	PND01010	44.4000	PS
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.4125	PP	MORENO VAL	RIVERSIDE COMMUNITY COLLEGE	PND02689	453.3000	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.4375	PP	MORGAN HIL	SANTA CLARA, COUNTY OF	PND02765	154.7400	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.4625	PP	MORGAN HIL	SANTA CLARA, COUNTY OF	PND02765	154.8750	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.4875	PP	MORGAN HIL	SANTA CLARA, COUNTY OF	PND02765	155.3700	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.5125	PP	MORGAN HIL	SANTA CLARA, COUNTY OF	PND02765	155.4150	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.5375	PP	MORGAN HIL	SANTA CLARA, COUNTY OF	PND02765	155.7000	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.5625	PP	MORGAN HIL	SANTA CLARA, COUNTY OF	PND02765	156.1500	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.5875	PP	MORGAN HIL	SANTA CLARA, COUNTY OF	PND02765	156.2100	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.6125	PP	MOUNT HAMI	SANTA CLARA, COUNTY OF	PND02765	39.9200	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.6375	PP	MOUNT HAMI	SANTA CLARA, COUNTY OF	PND02765	154.7400	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.6625	PP	MOUNT HAMI	SANTA CLARA, COUNTY OF	PND02765	155.7000	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.6875	PP	MOUNT HAMI	SANTA CLARA, COUNTY OF	PND02765	156.1500	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.7125	PP	MOUNT HAMI	SANTA CLARA, COUNTY OF	PND02765	156.2100	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.7375	PP	MOUNT SHAS	CALIFORNIA, STATE OF	PNA00016	855.4875	GP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.7625	PP	NAPA	CALIFORNIA, STATE OF	PND02581	151.3400	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.7875	PP	NAPA	CALIFORNIA, STATE OF	PND02581	159.3150	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.8125	PP	NEW ALMADE	SANTA CLARA, COUNTY OF	PND02764	156.1500	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.8375	PP	NORCO	RIVERSIDE COMMUNITY COLLEGE	PND02689	453.3000	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.8625	PP	OAKHURST	MADERA, COUNTY OF	PND02805	151.0550	PH
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.8875	PP	OAKHURST	MADERA, COUNTY OF	PND02805	156.0600	PH
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.9125	PP	OAKLAND	CALIFORNIA, STATE OF	PNA00025	42.1800	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.9375	PP	OAKLAND	CALIFORNIA, STATE OF	PNA00025	42.3400	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.9625	PP	OAKLAND	CALIFORNIA, STATE OF	PNA00025	154.9200	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	483.9875	PP	OAKLAND	CALIFORNIA, STATE OF	PNA00025	155.4750	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	484.0125	PP	OAKLAND	CALIFORNIA, STATE OF	PNA00025	155.6700	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	484.0375	PP	OAKLAND	CALIFORNIA, STATE OF	PNA00025	460.0250	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	484.0625	PP	OAKLAND	CALIFORNIA, STATE OF	PNA00025	465.0250	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	484.0875	PP	OAKLAND	CALIFORNIA, STATE OF	PND02580	151.3550	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	484.1125	PP	OAKLAND	CALIFORNIA, STATE OF	PND02580	159.3000	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	484.1375	PP	OAKLAND	LAKE, COUNTY OF	PNA00013	37.0200	PL
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	484.1625	PP	OAKLAND	LAKE, COUNTY OF	PNA00013	37.3800	PL
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	485.8125	PP	OAKLAND	LAKE, COUNTY OF	PNA00013	153.7550	PL
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	485.8375	PP	OAKLAND	LAKE, COUNTY OF	PNA00013	154.9800	PL
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	485.8625	PP	OAKLAND	LAKE, COUNTY OF	PNA00013	458.8750	PL
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	485.8875	PP	OROVILLE	CALIFORNIA, STATE OF	PND01834	151.2350	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	485.9125	PP	PALM SPRIN	CALIFORNIA, STATE OF	PNA00031	868.5375	GF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	485.9375	PP	PALO ALTO	SANTA CLARA, COUNTY OF	PND02765	154.7400	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	485.9625	PP	PALO ALTO	SANTA CLARA, COUNTY OF	PND02765	155.6700	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	485.9875	PP	PALO ALTO	SANTA CLARA, COUNTY OF	PND02765	155.7000	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.0125	PP	PALO ALTO	SANTA CLARA, COUNTY OF	PND02765	155.8500	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.0375	PP	PALO ALTO	SANTA CLARA, COUNTY OF	PND02765	156.2100	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.0625	PP	POMONA	AMERICAN RED CROSS	PNR12020	47.5000	PS
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.0875	PP	PORTOLA	CALIFORNIA, STATE OF	PND01834	151.2050	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.1125	PP	RANCHO PAL	LOS ANGELES, COUNTY OF	PND02568	473.5125	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.1375	PP	RANCHO PAL	LOS ANGELES, COUNTY OF	PND02568	473.5375	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.1625	PP	RANCHO PAL	LOS ANGELES, COUNTY OF	PND02568	485.6625	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.1875	PP	RANCHO PAL	LOS ANGELES, COUNTY OF	PND02568	485.6875	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.2125	PP	RANCHO PAL	LOS ANGELES, COUNTY OF	PND02568	485.7125	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.2375	PP	RANCHO PAL	LOS ANGELES, COUNTY OF	PND02568	485.7375	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.2625	PP	RANCHO PAL	LOS ANGELES, COUNTY OF	PND02568	485.7625	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.2875	PP	RANCHO PAL	LOS ANGELES, COUNTY OF	PND02568	485.7875	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.3125	PP	RANCHO PAL	LOS ANGELES, COUNTY OF	PND02571	154.4300	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.3375	PP	RANDSBURG	CALIFORNIA, STATE OF	PND02731	72.1000	PH
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.3625	PP	REDDING	CALIFORNIA, STATE OF	PNA00016	855.4875	GP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.3875	PP	REDDING	CALIFORNIA, STATE OF	PND02627	33.6600	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.4125	PP	REDDING	CALIFORNIA, STATE OF	PND02627	33.9800	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.4375	PP	REDDING	CALIFORNIA, STATE OF	PND02627	159.1350	PF
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.4625	PP	REDWOOD ES	SANTA CLARA, COUNTY OF	PND02764	155.7000	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.4875	PP	RIVERSIDE	RIVERSIDE COMMUNITY COLLEGE	PND02689	453.3000	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.5125	PP	RIVERSIDE	RIVERSIDE COMMUNITY COLLEGE	PND02689	458.6000	PP
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.5375	PP	SACRAMENTO	CALIFORNIA, STATE OF	PND02581	151.2350	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.5625	PP	SACRAMENTO	CALIFORNIA, STATE OF	PND02581	151.2800	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.5875	PP	SACRAMENTO	CALIFORNIA, STATE OF	PND02581	151.2950	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.6125	PP	SACRAMENTO	CALIFORNIA, STATE OF	PND02581	151.3100	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.6375	PP	SACRAMENTO	CALIFORNIA, STATE OF	PND02581	151.3550	PO
MARINA DEL	LOS ANGELES, COUNTY OF	PNR47845	486.6625	PP	SACRAMENTO	CALIFORNIA, STATE OF	PND02581	159.2700	PO

SACRAMENTO	CALIFORNIA, STATE OF	PND02581	159.3000	PO
SACRAMENTO	CALIFORNIA, STATE OF	PND02581	159.3300	PO
SACRAMENTO	CALIFORNIA, STATE OF	PND02581	159.3450	PO
SACRAMENTO	CALIFORNIA, STATE OF	PND02581	159.3600	PO
SACRAMENTO	CALIFORNIA, STATE OF	PND02581	159.3900	PO
SACRAMENTO	CALIFORNIA, STATE OF	PND02581	168.6250	PO
SACRAMENTO	CALIFORNIA, STATE OF	PNR12359	37.0200	PL
SACRAMENTO	CALIFORNIA, STATE OF	PNR12359	37.3800	PL
SACRAMENTO	CALIFORNIA, STATE OF	PNR12359	153.7550	PL
SACRAMENTO	CALIFORNIA, STATE OF	PNR12359	154.9800	PL
SACRAMENTO	CALIFORNIA, STATE OF	PNR12359	458.8750	PL
SAN JACINT	CALIFORNIA, STATE OF	PNA00025	42.3400	PP
SAN JACINT	CALIFORNIA, STATE OF	PNA00025	42.4400	PP
SAN JOSE	CALIFORNIA, STATE OF	PND02830	159.3450	PO
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	39.9200	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	154.6500	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	154.7400	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	154.8750	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	155.4150	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	155.6700	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	155.7000	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	156.1500	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	156.2100	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	156.6500	PP
SAN JOSE	SANTA CLARA, COUNTY OF	PND02765	159.2100	PP
SAN PEDRO	BOWERS COMPANIES INC	PND01010	47.6200	PS
SANTA ANA	ORANGE, COUNTY OF	PNR12077	45.4000	PL
SANTA ANA	ORANGE, COUNTY OF	PNR12077	153.9200	PL
SANTA ANA	ORANGE, COUNTY OF	PNR12077	158.9400	PL
SANTA ANA	ORANGE, COUNTY OF	PNR12742	45.4000	PL
SANTA ANA	ORANGE, COUNTY OF	PNR12742	153.9200	PL
SANTA ANA	ORANGE, COUNTY OF	PNR12742	158.9400	PL
SARATOGA	SANTA CLARA, COUNTY OF	PND02765	154.7400	PP
SARATOGA	SANTA CLARA, COUNTY OF	PND02765	155.7000	PP
SARATOGA	SANTA CLARA, COUNTY OF	PND02765	156.1500	PP
SARATOGA	SANTA CLARA, COUNTY OF	PND02765	156.2100	PP
SIERRA MAD	SIERRA MADRE, CITY OF	PND02570	154.2800	PF
SIERRA MAD	SIERRA MADRE, CITY OF	PND02570	154.3700	PF
STOCKTON	CALIFORNIA, STATE OF	PNR11776	39.0200	PP
STOCKTON	CALIFORNIA, STATE OF	PNR11776	39.1000	PP
SUTTER	CALIFORNIA, STATE OF	PND01703	151.2350	PO
SUTTER	CALIFORNIA, STATE OF	PND01703	159.2400	PO
SUTTER	CALIFORNIA, STATE OF	PND01703	159.2550	PO
SUTTER	CALIFORNIA, STATE OF	PND01703	159.4650	PO
TUSTIN	ORANGE, COUNTY OF	PND01705	46.5600	PL
VENTURA	VENTURA, COUNTY OF	PNR12527	453.5500	PL
VENTURA	VENTURA, COUNTY OF	PNR12527	458.5500	PL
VIRGILIA	CALIFORNIA, STATE OF	PNR11776	47.1000	PH
WESTLEY	STANISLAUS, COUNTY OF	PND02578	857.4875	GP
WOODLAND	CALIFORNIA, STATE OF	PND02829	151.4300	PO
WOODLAND	CALIFORNIA, STATE OF	PND02829	159.4200	PO

Colorado

	COSTILLA, COUNTY OF	PNR12828	155.6850	PP
	COSTILLA, COUNTY OF	PNR12828	156.0300	PP
ASPEN	ASPEN PITKIN CO. AIRPORT AUTH	PNA00021	453.6500	PL
BAILEY	DENVER, CITY & COUNTY OF	PND02629	153.6650	IW
BAILEY	DENVER, CITY & COUNTY OF	PND02629	159.6900	IW
COLORADO S	COLORADO, STATE OF	PNA00013	154.9050	PP
COLORADO S	COLORADO, STATE OF	PNA00013	154.9350	PP
COLORADO S	COLORADO, STATE OF	PNA00013	155.4750	PP
COLORADO S	COLORADO, STATE OF	PNA00013	155.5050	PP
COLORADO S	COLORADO, STATE OF	PNA00013	156.2100	PP
EAGLE	COLORADO, STATE OF	PND02832	151.0850	PH
EAGLE	COLORADO, STATE OF	PND02832	159.3900	PH
EVERGREEN	CLEAR CREEK, COUNTY OF	PNA00025	155.4750	PP
EVERGREEN	CLEAR CREEK, COUNTY OF	PNA00025	155.6100	PP
EVERGREEN	CLEAR CREEK, COUNTY OF	PNA00025	158.9700	PP
FORT COLLI	COLORADO, STATE OF	PND02830	151.4000	PO
FORT COLLI	COLORADO, STATE OF	PND02830	151.4750	PO
FORT COLLI	COLORADO, STATE OF	PND02830	159.2850	PO
GEORGETOWN	CLEAR CREEK, COUNTY OF	PNA00025	155.4750	PP
GEORGETOWN	CLEAR CREEK, COUNTY OF	PNA00025	155.6100	PP
GEORGETOWN	CLEAR CREEK, COUNTY OF	PNA00025	158.9700	PP
GLENWOOD S	COLORADO, STATE OF	PND02687	150.9950	PH
GLENWOOD S	COLORADO, STATE OF	PND02832	151.0850	PH
GLENWOOD S	NATIONAL SKI PATROL SYSTEM INC S	PNR11777	155.1600	PS
GLENWOOD S	NATIONAL SKI PATROL SYSTEM INC S	PNR11777	155.2800	PS
IDAHO SPRI	CLEAR CREEK, COUNTY OF	PNA00025	155.6100	PP
KASSLER	DENVER, CITY & COUNTY OF	PND02629	153.7250	IW
KASSLER	DENVER, CITY & COUNTY OF	PND02629	159.6900	IW
LAKE GEORG	COLORADO, STATE OF	PNA00013	156.2100	PP
LAKE GEORG	DENVER, CITY & COUNTY OF	PND02629	153.6650	IW
LAKE GEORG	DENVER, CITY & COUNTY OF	PND02629	159.6900	IW
PARSHALL	DENVER, CITY & COUNTY OF	PND02629	153.7250	IW
PARSHALL	DENVER, CITY & COUNTY OF	PND02629	159.6900	IW
ROCKY FLAT	DENVER, CITY & COUNTY OF	PND02629	153.5150	IW
ROCKY FLAT	DENVER, CITY & COUNTY OF	PND02629	159.6900	IW
SAN LUIS	COSTILLA, COUNTY OF	PNR12828	155.6850	PP
SHERIDAN L	COLORADO, STATE OF	PNA00024	154.7550	PP
TOWAOC	ARIZONA, STATE OF	PND02582	460.3000	PP
TOWAOC	ARIZONA, STATE OF	PND02582	460.3250	PP
VAIL	COLORADO, STATE OF	PND02832	151.0850	PH
WALDEN	COLORADO, STATE OF	PND02830	151.4000	PO
WALDEN	COLORADO, STATE OF	PND02830	159.4500	PO
WESTCREEK	COLORADO, STATE OF	PNA00013	156.2100	PP
WINTER PAR	DENVER, CITY & COUNTY OF	PND02629	153.7250	IW
WINTER PAR	DENVER, CITY & COUNTY OF	PND02629	159.6900	IW

Connecticut

BETHANY	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
BLOOMFIELD	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
COLCHESTER	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
CORNWALL	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
CORNWALL	CONNECTICUT, STATE OF	PNR10689	44.9200	PO
DERBY	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
DERBY	CONNECTICUT, STATE OF	PNR10689	44.7600	PO
DERBY	CONNECTICUT, STATE OF	PNR10689	44.9200	PO
EAST HADDA	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
EAST LYME	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
EAST LYME	CONNECTICUT, STATE OF	PNR10690	44.7600	PO
EASTFORD	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
FARMINGTON	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
GLASTONBUR	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
GLASTONBUR	CONNECTICUT, STATE OF	PNR10689	44.9200	PO
GLASTONBUR	CONNECTICUT, STATE OF	PNR10689	453.5500	PO
GRISWOLD	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
GRISWOLD	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
GRISWOLD	CONNECTICUT, STATE OF	PNR10690	44.9200	PO
HADDAM	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
HAMDEN	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
HAMDEN	CONNECTICUT, STATE OF	PNR10689	44.9200	PO
HARTFORD	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
HARTFORD	CONNECTICUT, STATE OF	PNR10689	44.9200	PO
HARTFORD	CONNECTICUT, STATE OF	PNR10689	458.5500	PO
HARWINTON	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
HARWINTON	CONNECTICUT, STATE OF	PNR10690	44.9200	PO
KENT	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
LEBANON	WINDHAM, TOWN OF	PNR12837	45.7600	PH
MADISON	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
MADISON	CONNECTICUT, STATE OF	PNR10689	44.7600	PO
MANCHESTER	MANCHESTER, TOWN OF	PND02581	152.3000	PL
MANCHESTER	MANCHESTER, TOWN OF	PND02581	157.5600	PL
MANCHESTER	MANCHESTER, TOWN OF	PNR12078	154.3550	PF
MANCHESTER	MANCHESTER, TOWN OF	PNR12078	154.4150	PF
MARLBOROUG	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
MIDDLEBURY	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
MONTVILLE	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
NAUGATUCK	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
NEW FAIRFI	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
NEW FAIRFI	CONNECTICUT, STATE OF	PNR10689	44.7600	PO
NEW HAVEN	HOSPITAL OF ST RAPHAEL	PNR12519	155.3250	PS
NEWTON	CONNECTICUT FIRE CHIEFS ASSOC	PNR12632	46.1600	PF
RIDGEFIELD	RIDGEFIELD, TOWN OF	PNR12079	45.3600	PL
SOUTHBURY	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
SOUTHBURY	CONNECTICUT, STATE OF	PNR10689	44.9200	PO
STAFFORD	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
STONINGTON	STONINGTON BOROUGH FIRE DEPT	PND02571	33.6800	PF
STONINGTON	STONINGTON BOROUGH FIRE DEPT	PND02571	33.9200	PF
STORRS	STATE OF CT UNIV. OF CONNEC	PND02628	461.9750	IB
THOMASTON	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
TOLLAND	CONNECTICUT, STATE OF	PNR10689	458.5500	PO
TORRINGTON	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
VOLUNTOWN	CONNECTICUT, STATE OF	PNR10689	44.6800	PO
WATERFORD	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
WATERFORD	CONNECTICUT, STATE OF	PNR10690	44.9200	PO
WESTPORT	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
WESTPORT	CONNECTICUT, STATE OF	PNR10690	44.7600	PO
WINCHESTER	CONNECTICUT, STATE OF	PNR10690	44.6800	PO
WINCHESTER	CONNECTICUT, STATE OF	PNR10690	44.9200	PO

Delaware

GEORGETOWN	DELAWARE, STATE OF	PND01707	453.7250	PL
GEORGETOWN	DELAWARE, STATE OF	PND01707	458.7250	PL
LEWES	DELAWARE RIVER AND BAY AUTH.	PND02688	154.8600	PP
LEWES	DELAWARE RIVER AND BAY AUTH.	PND02688	155.1300	PP
LEWES	DELAWARE RIVER AND BAY AUTH.	PND02688	155.3100	PP
MIDDLETOWN	MIDDLETOWN, CITY OF	PND02584	155.7750	PL
MIDDLETOWN	MIDDLETOWN, CITY OF	PND02584	158.9550	PL
NEW CASTLE	DELAWARE RIVER AND BAY AUTH.	PND02688	154.8600	PP
NEW CASTLE	DELAWARE RIVER AND BAY AUTH.	PND02688	155.1300	PP
NEW CASTLE	DELAWARE RIVER AND BAY AUTH.	PND02688	155.3100	PP

Florida

	CITY OF PUNTA GORDA HOUSING AUTH	PNA00014	153.9350	PL
	CORAL SPRINGS, CITY OF	PND02830	462.9500	PM
	CORAL SPRINGS, CITY OF	PND02830	462.9750	PM
	CORAL SPRINGS, CITY OF	PND02830	463.0000	PM
	CORAL SPRINGS, CITY OF	PND02830	463.0250	PM
	CORAL SPRINGS, CITY OF	PND02830	463.0500	PM
	CORAL SPRINGS, CITY OF	PND02830	463.0750	PM
	CORAL SPRINGS, CITY OF	PND02830	463.1000	PM
	CORAL SPRINGS, CITY OF	PND02830	463.1250	PM
	CORAL SPRINGS, CITY OF	PND02830	463.1500	PM

	CORAL SPRINGS, CITY OF	PND02830	463.1750	PM
	FLORIDA, STATE OF	PNA00029	154.1150	PL
CHIPLEY	CHIPLEY, CITY OF	PNR12842	155.7450	PL
CLEWISTON	S. FLORIDA WATER MANAGEMENT D	PND02831	169.4250	PO
COCOA	COCOA, CITY OF	PND02630	153.4100	IW
COCOA	COCOA, CITY OF	PND02630	158.1750	IW
COCONUT CR	FLORIDA, STATE OF	PNA00021	866.0125	GF
COCONUT CR	FLORIDA, STATE OF	PNA00021	866.4375	YF
COCONUT CR	FLORIDA, STATE OF	PNA00021	866.5125	GF
COCONUT CR	FLORIDA, STATE OF	PNA00021	866.9375	YF
COCONUT CR	FLORIDA, STATE OF	PNA00021	867.4375	YF
COCONUT CR	FLORIDA, STATE OF	PNA00021	867.9375	YF
COCONUT CR	FLORIDA, STATE OF	PNA00021	868.4375	YF
COCONUT CR	FLORIDA, STATE OF	PNA00021	868.9875	YF
DOCTORS IN	CLAY, COUNTY OF	PND01701	154.0250	PL
FORT LAUDE	FLORIDA, STATE OF	PNA00021	866.0125	GF
FORT LAUDE	FLORIDA, STATE OF	PNA00021	866.4375	YF
FORT LAUDE	FLORIDA, STATE OF	PNA00021	866.5125	GF
FORT LAUDE	FLORIDA, STATE OF	PNA00021	866.9375	YF
FORT LAUDE	FLORIDA, STATE OF	PNA00021	867.4375	YF
FORT LAUDE	FLORIDA, STATE OF	PNA00021	867.9375	YF
FORT LAUDE	FLORIDA, STATE OF	PNA00021	868.4375	YF
FORT LAUDE	FLORIDA, STATE OF	PNA00021	868.9875	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	866.2125	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	866.2375	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	866.2625	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	866.4125	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	866.6625	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	866.9125	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	867.1875	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	867.2125	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	867.2625	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	867.6125	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	867.6375	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	867.8375	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	867.8625	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	867.8875	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.0375	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.0875	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.2875	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.3125	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.3375	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.5375	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.5625	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.5875	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.7875	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.8125	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.8375	YF
FORT LAUDE	FORT LAUDERDALE, CITY OF	PND02761	868.9125	YF
FORT WHITE	FORT WHITE, TOWN OF	PND01275	154.9800	PL
GRANT	BREVARD, COUNTY OF	PND02572	154.1750	PF
LAKE KISSI	SOUTH FLORIDA WATER MAN. D	PND02831	169.4250	PO
MELBOURNE	BREVARD, COUNTY OF	PND02572	154.1750	PF
MERRITT IS	BREVARD, COUNTY OF	PND02572	154.4450	PF
MIAMI	CORAL GABLES, CITY OF	PND02728	851.4625	GP
MICCO	BREVARD, COUNTY OF	PND02572	154.1750	PF
MONTICELLO	JEFFERSON, COUNTY OF	PND02765	156.0300	PP
MONTICELLO	JEFFERSON, COUNTY OF	PND02765	158.9700	PP
MONTICELLO	JEFFERSON, COUNTY OF	PND02765	453.3750	PP
MONTICELLO	JEFFERSON, COUNTY OF	PND02765	458.3750	PP
MONTICELLO	PALM BEACH, COUNTY OF	PND01706	453.6250	PL
MONTICELLO	PALM BEACH, COUNTY OF	PND01706	458.6250	PL
NAPLES	FLORIDA, STATE OF	PNA00029	155.8800	PL
ORLANDO	FLORIDA, STATE OF	PND02690	851.6125	GP
PANAMA CIT	FLORIDA, STATE OF	PND02690	856.7625	YP
PANAMA CIT	FLORIDA, STATE OF	PND02690	857.2625	YP
PANAMA CIT	FLORIDA, STATE OF	PND02690	857.7625	YP
PANAMA CIT	FLORIDA, STATE OF	PND02690	858.2625	YP
PANAMA CIT	FLORIDA, STATE OF	PND02690	858.7625	YP
PANAMA CIT	FLORIDA, STATE OF	PND02690	859.2625	YP
PANAMA CIT	FLORIDA, STATE OF	PND02690	859.7625	YP
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	866.2125	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	866.2375	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	866.2625	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	866.4125	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	866.6625	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	866.9125	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	867.1875	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	867.2125	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	867.2625	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	867.6125	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	867.6375	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	867.8375	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	867.8625	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	867.8875	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.0375	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.0875	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.2875	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.3125	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.3375	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.5375	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.5625	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.5875	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.7875	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.8125	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.8375	YF
POMPANO BE	FORT LAUDERDALE, CITY OF	PND02761	868.9125	YF
ROCKLEDGE	BREVARD, COUNTY OF	PND02572	154.2800	PF
SUNRISE	FLORIDA, STATE OF	PNA00021	866.0125	GF
SUNRISE	FLORIDA, STATE OF	PNA00021	866.4375	YF
SUNRISE	FLORIDA, STATE OF	PNA00021	866.5125	GF
SUNRISE	FLORIDA, STATE OF	PNA00021	866.9375	YF
SUNRISE	FLORIDA, STATE OF	PNA00021	867.4375	YF
SUNRISE	FLORIDA, STATE OF	PNA00021	867.9375	YF
SUNRISE	FLORIDA, STATE OF	PNA00021	868.4375	YF
SUNRISE	FLORIDA, STATE OF	PNA00021	868.9875	YF
WEST MELBO	BREVARD, COUNTY OF	PND02572	154.1750	PF
WEST PALM	PALM BEACH, COUNTY OF	PND01706	154.8450	PP
WEST PALM	PALM BEACH, COUNTY OF	PND01706	155.5800	PP
WILDWOOD	WILDWOOD, CITY OF	PNA00026	155.7750	PL
WILDWOOD	WILDWOOD, CITY OF	PNA00026	158.7750	PL

Georgia

	CHEROKEE, COUNTY OF	PND01704	154.7400	PP
	CHEROKEE, COUNTY OF	PND01704	154.9050	PP
	CHEROKEE, COUNTY OF	PND01704	154.9350	PP
	ELBERTON, CITY OF	PNA00029	155.8950	PL
	LOWNDES, COUNTY OF	PNA00026	465.3500	PP
	STEPHENS COUNTY HOSPITAL	PNR12070	155.3400	PS
	STEPHENS COUNTY HOSPITAL	PNR12070	155.4000	PS
	WOODSTOCK, CITY OF	PND02765	154.7400	PP
	WOODSTOCK, CITY OF	PND02765	154.9050	PP
	WOODSTOCK, CITY OF	PND02765	154.9350	PP
	WOODSTOCK, CITY OF	PND02765	156.2400	PP
	WOODSTOCK, CITY OF	PND02765	159.1650	PP
ALBANY	DOUGHERTY, COUNTY OF	PNA00013	453.3000	PL
ALBANY	DOUGHERTY, COUNTY OF	PNA00013	453.6250	PL
ALBANY	DOUGHERTY, COUNTY OF	PNA00013	458.3000	PL
ALBANY	DOUGHERTY, COUNTY OF	PNA00013	458.6250	PL
ATLANTA	FULTON, COUNTY OF	PND02625	462.9750	PM
ATLANTA	FULTON, COUNTY OF	PND02625	463.0000	PM
ATLANTA	FULTON, COUNTY OF	PND02625	463.0250	PM
ATLANTA	FULTON, COUNTY OF	PND02625	463.0500	PM
ATLANTA	FULTON, COUNTY OF	PND02625	463.0750	PM
ATLANTA	FULTON, COUNTY OF	PND02625	463.1000	PM
ATLANTA	FULTON, COUNTY OF	PND02625	463.1250	PM
ATLANTA	FULTON, COUNTY OF	PND02625	463.1500	PM
ATLANTA	FULTON, COUNTY OF	PND02625	463.1750	PM
ATLANTA	GEORGIA, STATE OF	PND02583	159.7800	PL
BUCHANAN	LOWNDES, COUNTY OF	PNA00026	173.2625	PL
CANTON	CHATSWORTH, CITY OF	PNA00022	159.1050	PP
CANTON	CHEROKEE, COUNTY OF	PND01704	154.7400	PP
CANTON	CHEROKEE, COUNTY OF	PND01704	154.9050	PP
CANTON	CHEROKEE, COUNTY OF	PND01704	154.9350	PP
CANTON	CHEROKEE, COUNTY OF	PND01704	155.3700	PP
CANTON	GEORGIA, STATE OF	PNA00010	155.0850	PL
CANTON	WOODSTOCK, CITY OF	PND02765	159.1650	PP
CARROLLTON	GEORGIA, STATE OF	PNA00028	854.9875	GP
CHATSWORTH	CHATSWORTH, CITY OF	PNA00022	173.2037	PL
CLARKESVIL	GEORGIA, STATE OF	PND02731	151.3700	PO
CLARKESVIL	HABERSHAM, COUNTY OF	PNR12837	154.2050	PF
CLARKESVIL	HABERSHAM, COUNTY OF	PNR12837	154.2800	PF
COLLEGE PA	GEORGIA, STATE OF	PND02584	153.7400	PL
CRANDALL	CHATSWORTH, CITY OF	PNA00022	173.2037	PL
DAHLONEGA	GEORGIA, STATE OF	PND02731	151.3700	PO
DALTON	DALTON, CITY OF	PND02788	461.0250	PL
DAWSON	TERRELL, COUNTY OF	PND01278	156.2250	PP
DAWSON	TERRELL, COUNTY OF	PND01278	159.0300	PP
DAWSONVILL	GEORGIA, STATE OF	PND02731	151.3700	PO
DUBLIN	DUBLIN, CITY OF	PNA00014	156.0600	PL
DUBLIN	DUBLIN, CITY OF	PNA00014	158.7600	PL
ETON	CHATSWORTH, CITY OF	PNA00022	173.2037	PL
EULONIA	MC INTOSH, COUNTY OF	PND02602	156.1050	PH
EULONIA	MC INTOSH, COUNTY OF	PND02602	159.1200	PH
FORT VALLE	PEACH, COUNTY OF	PND02582	460.0250	PP
FORT VALLE	PEACH, COUNTY OF	PND02582	465.0250	PP
GAINESVILL	GEORGIA, STATE OF	PNA00018	153.7400	PL
GRIFFIN	PARA MED EMS INC	PND02737	155.2200	PS
HOLLY SPRI	CHEROKEE, COUNTY OF	PND01704	154.7400	PP
HOLLY SPRI	CHEROKEE, COUNTY OF	PND01704	154.9050	PP
HOLLY SPRI	CHEROKEE, COUNTY OF	PND01704	154.9350	PP
HOLLY SPRI	CHEROKEE, COUNTY OF	PND01704	155.3700	PP
LAVONIA	DOUGHERTY, COUNTY OF	PNA00013	156.1200	PL
LAVONIA	DOUGHERTY, COUNTY OF	PNA00013	453.2750	PL
LAVONIA	DOUGHERTY, COUNTY OF	PNA00013	458.2750	PL
LAVONIA	GEORGIA, STATE OF	PND02731	151.3700	PO
MARIETTA	PEACH, COUNTY OF	PND02582	47.2400	PH
MARIETTA	PEACH, COUNTY OF	PND02582	151.1000	PH
MONTICELLO	JASPER CO. BOARD OF EDUCATION	PND02790	463.8750	PS
PEMBROKE	BRYAN, COUNTY OF	PND02627	150.7750	PM
PEMBROKE	BRYAN, COUNTY OF	PND02627	156.1200	PM
RICHLAND	GEORGIA, STATE OF	PND02584	154.9050	PP
RICHLAND	GEORGIA, STATE OF	PND02584	154.9350	PP

RICHLAND	GEORGIA, STATE OF	PND02584	155.1900	PP
RICHLAND	GEORGIA, STATE OF	PND02584	155.3700	PP
SAVANNAH	SAINT JOSEPH HOSPITAL INC	PNR11922	155.2200	PS
SAVANNAH	SAINT JOSEPH HOSPITAL INC	PNR11922	155.2950	PS
SAVANNAH	SAINT JOSEPH HOSPITAL INC	PNR11922	155.3400	PS
SAVANNAH	SAINT JOSEPH HOSPITAL INC	PNR11922	163.2500	PS
SWAINSBORO	CITY OF SWAINSBORO HOUS AUTHO	PNR11876	453.5750	PL
SWAINSBORO	CITY OF SWAINSBORO HOUS AUTHO	PNR11876	458.5750	PL
TALLAPOOSA	LOWNDES, COUNTY OF	PNA00026	173.2625	PL
THOMASTON	LOWNDES, COUNTY OF	PNA00026	460.2250	PP
THOMASTON	LOWNDES, COUNTY OF	PNA00026	465.2250	PP
TOCCOA	STEPHENS COUNTY HOSPITAL	PNR12070	155.3400	PS
TOCCOA	STEPHENS COUNTY HOSPITAL	PNR12070	155.4000	PS
TOCCOA	STEPHENS, COUNTY OF	PND02571	154.2500	PF
TOCCOA	STEPHENS, COUNTY OF	PND02571	154.2800	PF
WOODSTOCK	WOODSTOCK, CITY OF	PND02765	154.7400	PP
WOODSTOCK	WOODSTOCK, CITY OF	PND02765	154.9050	PP
WOODSTOCK	WOODSTOCK, CITY OF	PND02765	155.3700	PP
WOODSTOCK	WOODSTOCK, CITY OF	PND02765	156.2400	PP

Hawaii

NORTH KONA	HAWAII, COUNTY OF	PND02605	153.4250	IW

Iowa

	HAWKEYE, CITY OF	PNR12199	154.1600	PF
	HAWKEYE, CITY OF	PNR12199	154.2800	PF
	MARION, COUNTY OF	PNA00024	458.6750	PL
	REMSEN VETERINARY CLINIC	PNR12883	47.6600	PS
AMES	WEST POINT, CITY OF	PND02686	464.0750	IB
AURELIA	CHEROKEE, COUNTY OF	PND02729	154.4000	PF
AURELIA	CHEROKEE, COUNTY OF	PND02729	453.7500	PF
BOONE	MADRID, CITY OF	PNR12364	457.1500	PF
CEDAR FALL	CEDAR FALLS, CITY OF	PND01704	155.0850	PL
CHEROKEE	CHEROKEE, COUNTY OF	PND02729	458.7500	PF
CLEGHORN	CHEROKEE, COUNTY OF	PND02729	154.4000	PF
CLEGHORN	CHEROKEE, COUNTY OF	PND02729	453.7500	PF
DENISON	DENISON COMMUNITY SCHOOL DIST	PNR12741	155.1750	PS
DONNELLSON	LEE COUNTY AMBULANCE SERVICE	PND02737	155.2950	PS
DONNELLSON	LEE COUNTY AMBULANCE SERVICE	PND02737	465.5125	PS
DUBUQUE	DUBUQUE, CITY OF	PNA00022	460.3750	PP
DUBUQUE	DUBUQUE, CITY OF	PNA00022	460.4250	PP
DUBUQUE	DUBUQUE, CITY OF	PNA00022	460.4500	PP
DUBUQUE	DUBUQUE, CITY OF	PNA00022	465.3750	PP
DUBUQUE	DUBUQUE, CITY OF	PNA00022	465.4500	PP
DUBUQUE	DUBUQUE, CITY OF	PNA00031	155.1450	PL
DUBUQUE	DUBUQUE, CITY OF	PNA00031	158.8050	PL
FORT MADIS	LEE COUNTY AMBULANCE SERVICE	PND02737	155.2950	PS
HARPERS FE	HARPERS FERRY, CITY OF	PNR12542	154.2800	PF
HARPERS FE	HARPERS FERRY, CITY OF	PNR12542	154.4150	PF
HAWKEYE	HAWKEYE, CITY OF	PNR12199	154.1600	PF
HAWKEYE	HAWKEYE, CITY OF	PNR12199	154.2800	PF
KEOKUK	LEE COUNTY AMBULANCE SERVICE	PND02737	155.2950	PS
LARRABEE	CHEROKEE, COUNTY OF	PND02729	154.4000	PF
LARRABEE	CHEROKEE, COUNTY OF	PND02729	453.7500	PF
MADRID	MADRID, CITY OF	PNR12364	154.2800	PF
MADRID	MADRID, CITY OF	PNR12364	154.4000	PF
MADRID	MADRID, CITY OF	PNR12364	452.1500	PF
MAQUOKETA	IOWA, STATE OF	PND02731	156.0600	PH
MAQUOKETA	IOWA, STATE OF	PND02731	159.1800	PH
MILES	IOWA, STATE OF	PND02731	159.1800	PH
MOUNT PLEA	MOUNT PLEASANT, CITY OF	PNA00023	155.0700	PP
MOUNT PLEA	MOUNT PLEASANT, CITY OF	PNA00023	158.9100	PP
MOUNT PLEA	MOUNT PLEASANT, CITY OF	PNA00023	460.1375	PP
MUSCATINE	MUSCATINE, CITY OF	PND02761	855.4875	GP
MUSCATINE	MUSCATINE, CITY OF	PND02761	857.4875	GP
NORTHWOOD	WORTH, COUNTY OF	PNA00017	154.8900	PP
NORTHWOOD	WORTH, COUNTY OF	PNA00017	155.3700	PP
NORTHWOOD	WORTH, COUNTY OF	PNA00017	155.4750	PP
NORTHWOOD	WORTH, COUNTY OF	PNA00017	155.6100	PP
NORTHWOOD	WORTH, COUNTY OF	PNA00017	155.9100	PP
ONAWA	ONAWA, CITY OF	PNR11888	453.5750	PL
ONAWA	ONAWA, CITY OF	PNR11888	458.5750	PL
ONAWA	ONAWA, CITY OF	PNR11888	458.9000	PL
ONAWA	ONAWA, CITY OF	PNR12739	453.5750	PL
ONAWA	ONAWA, CITY OF	PNR12739	458.5750	PL
ONAWA	ONAWA, CITY OF	PNR12739	458.9000	PL
QUIMBY	CHEROKEE, COUNTY OF	PND02729	154.4000	PF
QUIMBY	CHEROKEE, COUNTY OF	PND02729	453.7500	PF
REMSEN	REMSEN VETERINARY CLINIC	PNR12883	47.6600	PS
ROCK VALLE	ROCK VALLEY, CITY OF	PND02627	154.1900	PF
SAINT CHAR	WORTH, COUNTY OF	PNA00017	153.7850	PL
WASHINGTON	WASHINGTON, COUNTY OF	PND02765	153.7400	PL
WASHINGTON	WASHINGTON, COUNTY OF	PND02765	158.7450	PL
WATERLOO	WATERLOO, CITY OF	PNR12152	154.8000	PP
WATERLOO	WATERLOO, CITY OF	PNR12152	155.3700	PP
WATERLOO	WATERLOO, CITY OF	PNR12152	155.4750	PP
WATERLOO	WATERLOO, CITY OF	PNR12152	460.0250	PP
WATERLOO	WATERLOO, CITY OF	PNR12152	460.0500	PP
WATERLOO	WATERLOO, CITY OF	PNR12152	460.1000	PP
WATERLOO	WATERLOO, CITY OF	PNR12152	465.0250	PP
WATERLOO	WATERLOO, CITY OF	PNR12152	465.0500	PP
WATERLOO	WATERLOO, CITY OF	PNR12152	465.1000	PP
WEST DES M	WEST DES MOINES, CITY OF	PND01702	154.9500	PP
WEST DES M	WEST DES MOINES, CITY OF	PND01702	155.1300	PP
WEST DES M	WEST DES MOINES, CITY OF	PND01702	155.3700	PP
WEST DES M	WEST DES MOINES, CITY OF	PND01702	155.5350	PP
WEST DES M	WEST DES MOINES, CITY OF	PND01702	156.0300	PP
WEST DES M	WEST DES MOINES, CITY OF	PND01702	158.9700	PP
WEST POINT	WEST POINT, CITY OF	PND02686	158.1450	IW
WEST POINT	WEST POINT, CITY OF	PND02686	173.2100	IW

Idaho

	WILKINS, GERALD	PND02585	155.2200	PS
BOISE	ST LUKES REGIONAL MED. CENTER	PND02833	151.2950	PM
BOISE	ST LUKES REGIONAL MED. CENTER	PND02833	159.4200	PM
EMMETT	WILKINS, GERALD	PND02585	155.2200	PS
FAIRFIELD	CAMAS, COUNTY OF	PND01596	460.6000	PP
FAIRFIELD	CAMAS, COUNTY OF	PND01596	465.0250	PP
FAIRFIELD	CAMAS, COUNTY OF	PND01596	465.1500	PP
FAIRFIELD	CAMAS, COUNTY OF	PND01596	465.1750	PP
FAIRFIELD	CAMAS, COUNTY OF	PND01596	465.4750	PP
FAIRFIELD	CAMAS, COUNTY OF	PND01596	465.6000	PP
IDAHO FALL	BONNEVILLE, COUNTY OF	PND02764	72.5400	PL
IDAHO FALL	BONNEVILLE, COUNTY OF	PND02764	75.5400	PL
IDAHO FALL	BONNEVILLE, COUNTY OF	PND02764	155.0550	PL
IDAHO FALL	BONNEVILLE, COUNTY OF	PND02764	155.7450	PL

Illinois

	ALTON, CITY OF	PND02764	158.9700	PP
	CRESCENT IROQUOIS EMER. MED	PND02832	155.3400	PM
	DE WITT, COUNTY OF	PND01944	155.9100	PP
	DIXMOOR, VILLAGE OF	PND01946	155.3400	PM
	DIXMOOR, VILLAGE OF	PND01946	462.9500	PM
	DIXMOOR, VILLAGE OF	PND01946	463.0000	PM
	DIXMOOR, VILLAGE OF	PND01946	463.0250	PM
	DIXMOOR, VILLAGE OF	PND01946	463.0500	PM
	DIXMOOR, VILLAGE OF	PND01946	463.0750	PM
	DIXMOOR, VILLAGE OF	PND01946	463.1000	PM
	DIXMOOR, VILLAGE OF	PND01946	463.1250	PM
	DIXMOOR, VILLAGE OF	PND01946	463.1500	PM
	DIXMOOR, VILLAGE OF	PND01946	463.1750	PM
	KENNEDY & SONS AMBULANCE INC	PND02737	155.3400	PM
	MAYWOOD PARK TROTTING ASSOC	PND02586	155.3400	PM
	MAYWOOD PARK TROTTING ASSOC	PND02586	463.0000	PM
	MAYWOOD PARK TROTTING ASSOC	PND02586	463.0250	PM
	MAYWOOD PARK TROTTING ASSOC	PND02586	463.0500	PM
	MAYWOOD PARK TROTTING ASSOC	PND02586	463.0750	PM
	MAYWOOD PARK TROTTING ASSOC	PND02586	463.1000	PM
	MAYWOOD PARK TROTTING ASSOC	PND02586	463.1250	PM
	MAYWOOD PARK TROTTING ASSOC	PND02586	463.1750	PM
	MIDLOTHIAN, VILLAGE OF	PND02707	451.6125	IW
	N. REGIONAL TELECOMMUNICATION	PNR12733	470.6125	PP
	N. REGIONAL TELECOMMUNICATION	PNR12733	473.6125	PP
	PULSE AMBULANCE INC	PND01945	155.2200	PM
	PULSE AMBULANCE INC	PND01945	155.3400	PM
	PULSE AMBULANCE INC	PND01945	155.4000	PM
	PULSE AMBULANCE INC	PND01945	463.0000	PM
	PULSE AMBULANCE INC	PND01945	463.0250	PM
	PULSE AMBULANCE INC	PND01945	463.0500	PM
	PULSE AMBULANCE INC	PND01945	463.0750	PM
	PULSE AMBULANCE INC	PND01945	463.1000	PM
	PULSE AMBULANCE INC	PND01945	463.1250	PM
	PULSE AMBULANCE INC	PND01945	463.1500	PM
	PULSE AMBULANCE INC	PND01945	463.1750	PM
	SCHNEIDER, JOHN W	PNR12055	156.1200	PH
ALSIP	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	855.4875	GP
ALSIP	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	855.9625	GP
ALSIP	METRO. WATER RECLAMATION D	PND02688	453.9250	PL
BELVIDERE	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	854.9875	GP
BELVIDERE	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	855.9625	GP
CARLINVILL	CARLINVILLE, CITY OF	PNR12840	154.0250	PL
CHICAGO	PRONET INC	PND02546	453.1250	PS
DES PLAINE	METRO. WATER RECLAMATION D	PND02688	453.5250	PL
DES PLAINE	METRO. WATER RECLAMATION D	PND02688	458.5250	PL
DIXON	ILLINOIS, STATE OF	PNA00015	453.3000	PL
ELDORADO	EL DORADO, CITY OF	PNA00014	155.8500	PP
ELDORADO	EL DORADO, CITY OF	PNA00014	159.2100	PP
ELGIN	PRONET INC	PND02546	453.1250	PS
ELIZABETH	JO DAVIESS, COUNTY OF	PNR10689	72.2200	PL
FRANKLIN P	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	855.9875	GP
FRANKLIN P	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	856.4875	GP
FULTON	FULTON, CITY OF	PNA00020	155.7000	PP
FULTON	FULTON, CITY OF	PNA00020	155.7300	PP
FULTON	FULTON, CITY OF	PNA00020	158.9700	PP
GLENCOE	N. REGIONAL TELECOMMUNICATION	PNR12733	470.3375	PP
GLENCOE	N. REGIONAL TELECOMMUNICATION	PNR12733	473.8375	PP
GLENCOE	N. REGIONAL TELECOMMUNICATION	PNR12733	473.9625	PP
GLENVIEW	N. REGIONAL TELECOMMUNICATION	PNR12732	470.3375	PP
GLENVIEW	N. REGIONAL TELECOMMUNICATION	PNR12733	473.8375	PP
GLENVIEW	N. REGIONAL TELECOMMUNICATION	PNR12733	473.9625	PP
GRAND RIDG	GRAND RIDGE VOLUN. FIRE DEPAR	PND02637	154.1900	PF
GRAND RIDG	GRAND RIDGE VOLUN. FIRE DEPAR	PND02637	154.2500	PF
HANOVER PA	METRO. WATER RECLAMATION D	PND02688	453.2750	PL
HANOVER PA	METRO. WATER RECLAMATION D	PND02688	458.2750	PL

HARRISBURG	PROSPECT WATER DISTRICT	PNA00012	158.7450	PL
HILLSBORO	MONTGOMERY, COUNTY OF	PND02830	154.2350	PF
HINSDALE	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	856.2375	GP
HINSDALE	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	856.4875	GP
KENILWORTH	N. REGIONAL TELECOMMUNICATION	PNR12732	470.3375	PP
KENILWORTH	N. REGIONAL TELECOMMUNICATION	PNR12733	473.8375	PP
KENILWORTH	N. REGIONAL TELECOMMUNICATION	PNR12733	473.9625	PP
LA GRANGE	PRONET INC	PND02546	453.1250	PS
LINCOLN	ABRAHAM LINCOLN MEM. HOSPITA	PND02730	155.2800	PS
LINCOLNWOO	N. REGIONAL TELECOMMUNICATION	PNR12731	473.8375	PP
LINCOLNWOO	N. REGIONAL TELECOMMUNICATION	PNR12731	473.9625	PP
LINCOLNWOO	N. REGIONAL TELECOMMUNICATION	PNR12732	470.3375	PP
MARENGO	RILEY, TOWNSHIP OF	PNR12355	156.1950	PH
MATTOON	ILLINOIS, STATE OF	PND01702	155.0850	PL
MAYWOOD	MAYWOOD, VILLAGE OF	PNR12361	154.2650	PF
MAYWOOD	MAYWOOD, VILLAGE OF	PNR12361	154.3700	PF
MOLINE	MOLINE, CITY OF	PND01701	460.1750	PP
MOLINE	MOLINE, CITY OF	PND01701	465.1750	PP
MONMOUTH	ILLINOIS, STATE OF	PND01702	42.5000	PP
MONMOUTH	ILLINOIS, STATE OF	PND01702	42.6000	PP
MONMOUTH	ILLINOIS, STATE OF	PND01702	154.6800	PP
MONMOUTH	ILLINOIS, STATE OF	PND01702	154.9050	PP
MONMOUTH	ILLINOIS, STATE OF	PND01702	155.4600	PP
MONMOUTH	ILLINOIS, STATE OF	PND01702	155.4750	PP
MORTON GRO	N. REGIONAL TELECOMMUNICATION	PNR12733	473.8375	PP
MORTON GRO	N. REGIONAL TELECOMMUNICATION	PNR12733	473.9625	PP
MORTON GRO	N. REGIONAL TELECOMMUNICATION	PNR12734	470.3375	PP
MOUNT MORR	MT MORRIS FIRE PROTECTION DIS	PND02729	154.3400	PF
MUNDELEIN	NATIONAL SCHOOL BUS SERVICE IN	PNR12177	47.5400	PS
MUNDELEIN	NATIONAL SCHOOL BUS SERVICE INC	PNR12177	155.1750	PS
NAPERVILLE	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	856.4875	GP
NAPERVILLE	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	856.9875	GP
NEW BADEN	NEW BADEN, VILLAGE OF	PNR12053	154.1900	PF
NEW BADEN	NEW BADEN, VILLAGE OF	PNR12053	154.4300	PF
NILES	N. REGIONAL TELECOMMUNICATION	PNR12733	473.8375	PP
NILES	N. REGIONAL TELECOMMUNICATION	PNR12733	473.9625	PP
NILES	N. REGIONAL TELECOMMUNICATION	PNR12734	470.3375	PP
NILES	N. REGIONAL TELECOMMUNICATION	PNR12734	470.9625	PP
NOKOMIS	MONTGOMERY, COUNTY OF	PND02830	154.2350	PF
N.BROOK	N. REGIONAL TELECOMMUNICATION	PNR12733	470.3375	PP
N.BROOK	N. REGIONAL TELECOMMUNICATION	PNR12733	470.6125	PP
N.BROOK	N. REGIONAL TELECOMMUNICATION	PNR12734	470.8375	PP
N.BROOK	N. REGIONAL TELECOMMUNICATION	PNR12734	473.8375	PP
N.BROOK	N. REGIONAL TELECOMMUNICATION	PNR12734	473.9625	PP
N.FIELD	N. REGIONAL TELECOMMUNICATION	PNR12732	470.3375	PP
N.FIELD	N. REGIONAL TELECOMMUNICATION	PNR12732	473.8375	PP
N.FIELD	N. REGIONAL TELECOMMUNICATION	PNR12732	473.9625	PP
OAK PARK	PRONET INC	PND02546	453.1250	PS
OAK PARK	WEST SUBURBAN HOSPITAL	PND02636	163.2500	PS
RAYMOND	MONTGOMERY, COUNTY OF	PND02830	154.2350	PF
RIVER FORE	PRONET INC	PND02546	453.1250	PS
ROCHELLE	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	856.4875	GP
SAYBROOK	CHENEYS GROVE, TOWNSHIP OF	PNA00027	158.8800	PL
SCHAUMBURG	METRO. WATER RECLAMATION D	PND02688	453.3750	PL
SCHAUMBURG	METRO. WATER RECLAMATION D	PND02688	458.3750	PL
SCHAUMBURG	SCHAUMBURG, VILLAGE OF	PNR12025	155.3700	PP
SCHAUMBURG	SCHAUMBURG, VILLAGE OF	PNR12025	155.4750	PP
SCHAUMBURG	SCHAUMBURG, VILLAGE OF	PNR12025	155.5500	PP
SCHAUMBURG	SCHAUMBURG, VILLAGE OF	PNR12025	156.0150	PP
SKOKIE	METRO. WATER RECLAMATION D	PND02688	453.6250	PL
SKOKIE	METRO. WATER RECLAMATION D	PND02688	458.6250	PL
SKOKIE	N. REGIONAL TELECOMMUNICATION	PNR12732	470.3375	PP
SKOKIE	N. REGIONAL TELECOMMUNICATION	PNR12732	470.9625	PP
SOUTH BELO	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	855.2375	GP
SOUTH BELO	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	855.9625	GP
STERLING	ABRAHAM LINCOLN MEM. HOSPITA	PND02730	155.2200	PM
STERLING	ABRAHAM LINCOLN MEM. HOSPITA	PND02730	155.3400	PM
STERLING	ABRAHAM LINCOLN MEM. HOSPITA	PND02730	155.4000	PM
STERLING	ABRAHAM LINCOLN MEM. HOSPITA	PND02730	465.5250	PM
STOCKTON	JO DAVIESS, COUNTY OF	PNR10689	75.5400	PL
THORNTON	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	856.2375	GP
THORNTON	ILLINOIS STATE TOLL HIGHWAY AUTH	PNR11649	856.4875	GP
VICTORIA	ILLINOIS, STATE OF	PND01834	151.2500	PO
VICTORIA	ILLINOIS, STATE OF	PND01834	151.2800	PO
VICTORIA	ILLINOIS, STATE OF	PND01834	151.4450	PO
VICTORIA	ILLINOIS, STATE OF	PND01834	159.3000	PO
VICTORIA	ILLINOIS, STATE OF	PND01834	159.3750	PO
VICTORIA	ILLINOIS, STATE OF	PND01834	159.4200	PO
WAPELLA	WAPELLA, VILLAGE OF	PNA00019	154.0250	PL
WAPELLA	WAPELLA, VILLAGE OF	PNA00019	155.0550	PL
WARSAW	PROSPECT WATER DISTRICT	PNA00012	453.7750	PL
WHEELING	NATIONAL SCHOOL BUS SERVICE INC	PNR12177	47.5400	PS
WHEELING	N. REGIONAL TELECOMMUNICATION	PNR12731	473.8375	PP
WHEELING	N. REGIONAL TELECOMMUNICATION	PNR12731	473.9625	PP
WHEELING	N. REGIONAL TELECOMMUNICATION	PNR12732	470.3375	PP
WILMETTE	N. REGIONAL TELECOMMUNICATION	PNR12731	473.9625	PP
WILMETTE	N. REGIONAL TELECOMMUNICATION	PNR12732	470.3375	PP
WILMETTE	N. REGIONAL TELECOMMUNICATION	PNR12732	470.8375	PP
WINNETKA	N. REGIONAL TELECOMMUNICATION	PNR12732	470.3375	PP
WINNETKA	N. REGIONAL TELECOMMUNICATION	PNR12733	473.8375	PP
WINNETKA	N. REGIONAL TELECOMMUNICATION	PNR12733	473.9625	PP

Indiana

	ANGOLA, CITY OF	PND02596	461.1125	IB
	JASPER, COUNTY OF	PND02763	462.6250	BA
	JASPER, COUNTY OF	PND02763	462.6750	BA
ANDERSON	ROCKVILLE, CITY OF	PNA00011	155.0400	PL
AURORA	INDIANA, STATE OF	PND02579	866.0125	YF
AURORA	INDIANA, STATE OF	PND02579	866.4750	YF
AURORA	INDIANA, STATE OF	PND02579	866.5125	YF
AURORA	INDIANA, STATE OF	PND02579	866.9750	YF
AURORA	INDIANA, STATE OF	PND02579	867.0125	YF
AURORA	INDIANA, STATE OF	PND02579	867.4750	YF
AURORA	INDIANA, STATE OF	PND02579	867.5125	YF
AURORA	INDIANA, STATE OF	PND02579	867.9750	YF
AURORA	INDIANA, STATE OF	PND02579	868.0125	YF
AURORA	INDIANA, STATE OF	PND02579	868.4750	YF
CANNELTON	PERRY, COUNTY OF	PNA00024	154.1000	PL
CANNELTON	PERRY, COUNTY OF	PNA00024	155.0250	PL
CANNELTON	PERRY, COUNTY OF	PNA00024	155.9400	PL
CANNELTON	PERRY, COUNTY OF	PNA00024	158.8950	PL
ERIE	BROWNSTOWN, CITY OF	PNR12360	463.8000	BA
EVANSVILLE	INDIANA, STATE OF	PND02578	866.0125	YF
EVANSVILLE	INDIANA, STATE OF	PND02578	866.5125	YF
EVANSVILLE	INDIANA, STATE OF	PND02578	866.8750	YF
EVANSVILLE	INDIANA, STATE OF	PND02578	867.0125	YF
EVANSVILLE	INDIANA, STATE OF	PND02578	867.3750	YF
EVANSVILLE	INDIANA, STATE OF	PND02578	867.5125	YF
EVANSVILLE	INDIANA, STATE OF	PND02578	867.8750	YF
EVANSVILLE	INDIANA, STATE OF	PND02578	868.0125	YF
EVANSVILLE	INDIANA, STATE OF	PND02578	868.3875	YF
EVANSVILLE	INDIANA, STATE OF	PND02578	868.8750	YF
INDIANAPOL	INDIANA, STATE OF	PND02578	866.0125	YF
INDIANAPOL	INDIANA, STATE OF	PND02578	866.5125	YF
INDIANAPOL	INDIANA, STATE OF	PND02578	867.0125	YF
INDIANAPOL	INDIANA, STATE OF	PND02578	867.5125	YF
INDIANAPOL	INDIANA, STATE OF	PND02578	868.0125	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	855.2375	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	855.9625	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	856.9625	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	857.9625	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	858.9625	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	859.9625	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	860.4625	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	860.9625	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	866.0125	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	866.5125	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	867.0125	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	867.5125	YF
INDIANAPOL	INDIANA, STATE OF	PND02690	868.0125	YF
INDIANAPOL	INDIANAPOLIS, CITY OF	PND01701	453.9000	PL
INDIANAPOL	INDIANAPOLIS, CITY OF	PND01701	458.9000	PL
MARRS CENT	MARRS TOWNSHIP VOLUN. FIRE DE	PND02737	154.2950	PF
MARRS CENT	MARRS TOWNSHIP VOLUN. FIRE DE	PND02737	159.0450	PF
NOBLESVILL	NOBLESVILLE, CITY OF	PND01702	155.0250	PL
NORTH MADI	INDIANA, STATE OF	PND02578	866.0125	YF
NORTH MADI	INDIANA, STATE OF	PND02578	866.5125	YF
NORTH MADI	INDIANA, STATE OF	PND02578	867.0125	YF
NORTH MADI	INDIANA, STATE OF	PND02578	867.5125	YF
NORTH MADI	INDIANA, STATE OF	PND02578	868.0125	YF
PATOKA	ROCKVILLE, CITY OF	PNA00011	155.7750	PL
PATRIOT	INDIANA, STATE OF	PND02578	866.0125	YF
PATRIOT	INDIANA, STATE OF	PND02578	866.5125	YF
PATRIOT	INDIANA, STATE OF	PND02578	867.0125	YF
PATRIOT	INDIANA, STATE OF	PND02578	867.5125	YF
PATRIOT	INDIANA, STATE OF	PND02578	868.0125	YF
PERU	S. DEARBORN REGIONAL SEWER DI	PND02707	155.0250	PL
PERU	S. DEARBORN REGIONAL SEWER DI	PND02707	155.8950	PL
RENSSELAER	JASPER, COUNTY OF	PND02763	154.7250	PP
RENSSELAER	JASPER, COUNTY OF	PND02763	154.8900	PP
RENSSELAER	JASPER, COUNTY OF	PND02763	155.1300	PP
RENSSELAER	JASPER, COUNTY OF	PND02763	155.3700	PP
RENSSELAER	JASPER, COUNTY OF	PND02763	158.9700	PP
ROCKVILLE	ROCKVILLE, CITY OF	PNA00011	158.8050	PL
SAINT JOE	CONCORD, TOWNSHIP OF	PND01058	154.2800	PF
SAINT JOE	CONCORD, TOWNSHIP OF	PND01058	154.3550	PF
SHELBY	SHELBY VOLUNTEER FIRE DEPT	PND01738	154.2350	PF
SOUTH BEND	S. DEARBORN REGIONAL SEWER DI	PND02707	155.9400	PL
SPENCER	WASHINGTON, TOWNSHIP OF	PND02572	154.1450	PF
SPENCER	WASHINGTON, TOWNSHIP OF	PND02572	154.2800	PF
SPENCER	WASHINGTON, TOWNSHIP OF	PND02572	154.3400	PF
TELL CITY	PERRY, COUNTY OF	PNA00024	155.0250	PL
TELL CITY	PERRY, COUNTY OF	PNA00024	155.9400	PL

Kansas

	LEAVENWORTH, COUNTY OF	PND02762	855.4875	GP
	SUMMERFIELD, CITY OF	PNA00019	453.1625	PL
	SUMMERFIELD, CITY OF	PNA00019	453.3125	PL
FLORENCE	F & F IRON & METAL COMPANY	PND02790	155.2950	PS
GREAT BEND	GREAT BEND, CITY OF	PNR11781	453.5500	PL
GREAT BEND	GREAT BEND, CITY OF	PNR11781	453.8500	PL
JETMORE	HODGEMAN, COUNTY OF	PNA00027	154.8300	PP
JETMORE	HODGEMAN, COUNTY OF	PNA00027	155.4750	PP

JETMORE	HODGEMAN, COUNTY OF	PNA00027	159.2100	PP
LA CYGNE	LA CYGNE, CITY OF	PND01275	159.0900	PP
MARION	F & F IRON & METAL COMPANY	PND02790	155.2950	PS
OSKALOOSA	JEFFERSON CO. RURAL FIRE DIST	PND02626	154.1450	PF
PEARL	CHAPMAN FIRE DISTRICT	PND01701	153.8150	PL
PEARL	CHAPMAN FIRE DISTRICT	PND01701	158.8500	PL
SHAWNEE MI	AMERICAN NATIONAL RED CROSS	PND02707	47.4200	PS
ULYSSES	GRANT, COUNTY OF	PNA00024	460.0250	PP
ULYSSES	GRANT, COUNTY OF	PNA00024	465.0250	PP
WICHITA	SEDGWICK, COUNTY OF	PND01929	855.2125	GP
WICHITA	SEDGWICK, COUNTY OF	PND01929	855.7125	GP
WICHITA	WICHITA SEDGWICK CO. AMBULANC	PND02730	462.9500	PM
WICHITA	WICHITA SEDGWICK CO. AMBULANC	PND02730	462.9750	PM
WICHITA	WICHITA SEDGWICK CO. AMBULANC	PND02730	463.0000	PM
WICHITA	WICHITA SEDGWICK CO. AMBULANC	PND02730	463.0250	PM
WICHITA	WICHITA SEDGWICK CO. AMBULANC	PND02730	463.0500	PM
WICHITA	WICHITA SEDGWICK CO. AMBULANC	PND02730	463.0750	PM
WICHITA	WICHITA SEDGWICK CO. AMBULANC	PND02730	463.1000	PM
WICHITA	WICHITA SEDGWICK CO. AMBULANC	PND02730	463.1250	PM
WICHITA	WICHITA SEDGWICK CO. AMBULANC	PND02730	463.1500	PM
WICHITA	WICHITA SEDGWICK C. AMBULANC	PND02730	463.1750	PM
YATES CENT	SUMMERFIELD, CITY OF	PNA00019	453.3750	PL
YATES CENT	SUMMERFIELD, CITY OF	PNA00019	458.3750	PL

Kentucky

	HOPKINS, COUNTY OF	PNR12366	39.5000	PL
	HOPKINS, COUNTY OF	PNR12366	39.9800	PL
	JEFFERSON, COUNTY OF	PND02688	458.4000	PL
	LOUISVILLE, CITY OF	PNA00011	458.8250	PL
	PARKSVILLE WATER DISTRICT	PNA00030	458.4875	PL
	RICHMOND, CITY OF	PNA00018	453.5125	PL
	RICHMOND, CITY OF	PNA00018	458.5125	PL
	STINNETT VOLUNTEER FIRE DEPT	PND02636	453.5000	PF
	TRANSCARE AMBULANCE SVC INC	PND02571	462.9500	PM
	TRANSCARE AMBULANCE SVC INC	PND02571	462.9750	PM
	TRANSCARE AMBULANCE SVC INC	PND02571	463.0000	PM
	TRANSCARE AMBULANCE SVC INC	PND02571	463.0250	PM
	TRANSCARE AMBULANCE SVC INC	PND02571	463.0500	PM
	TRANSCARE AMBULANCE SVC INC	PND02571	463.0750	PM
	TRANSCARE AMBULANCE SVC INC	PND02571	463.1000	PM
	TRANSCARE AMBULANCE SVC INC	PND02571	463.1250	PM
	TRANSCARE AMBULANCE SVC INC	PND02571	463.1500	PM
	TRANSCARE AMBULANCE SVC INC	PND02571	463.1750	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	155.4000	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	462.9500	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	462.9750	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	463.0000	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	463.0250	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	463.0500	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	463.0750	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	463.1000	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	463.1250	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	463.1500	PM
ALBANY	TRANSCARE AMBULANCE SVC INC	PND02571	463.1750	PM
BRANDENBUR	LOUISVILLE, CITY OF	PNA00011	460.1250	PL
BRANDENBUR	LOUISVILLE, CITY OF	PNA00011	465.1250	PL
BUTLER	PENDLETON, COUNTY OF	PND02570	154.1750	PF
BUTLER	PENDLETON, COUNTY OF	PND02570	154.2800	PF
CAMPBELLSV	CAMPBELLSVILLE, CITY OF	PNR11767	155.0850	PL
CAWOOD	MORGANTOWN HOUSING AUTHORITY	PND02764	173.3962	PL
ELIZABETHT	ELIZABETHTOWN, CITY OF	PND01652	173.2875	IW
FAIRDALE	JEFFERSON, COUNTY OF	PND02688	453.6750	PL
FAIRDALE	JEFFERSON, COUNTY OF	PND02688	453.9750	PL
FALMOUTH	PENDLETON, COUNTY OF	PND02570	153.7700	PF
FALMOUTH	PENDLETON, COUNTY OF	PND02570	154.1750	PF
FALMOUTH	PENDLETON, COUNTY OF	PND02570	154.2800	PF
LEWISBURG	LEWISBURG, CITY OF	PND02630	153.4250	IW
LONDON	CUNDIFF FARMS	PNR12947	151.1450	PF
LONDON	CUNDIFF FARMS	PNR12947	153.7700	PF
LOUISVILLE	JEFFERSON, COUNTY OF	PND02688	453.4000	PL
LOUISVILLE	JEFFERSON, COUNTY OF	PND02688	453.6750	PL
LOUISVILLE	JEFFERSON, COUNTY OF	PND02688	453.9750	PL
LOUISVILLE	JEFFERSON, COUNTY OF	PND02688	458.6750	PL
LOUISVILLE	JEFFERSON, COUNTY OF	PND02688	458.9750	PL
MADISONVIL	HOPKINS, COUNTY OF	PNR12366	39.5000	PL
MADISONVIL	HOPKINS, COUNTY OF	PNR12366	39.9800	PL
MADISONVIL	LOUISVILLE, CITY OF	PNA00011	39.5000	PL
MADISONVIL	LOUISVILLE, CITY OF	PNA00011	39.9800	PL
MONTICELLO	TRANSCARE AMBULANCE SVC INC	PND02571	150.7750	PM
MONTICELLO	TRANSCARE AMBULANCE SVC INC	PND02571	155.1600	PM
MONTICELLO	TRANSCARE AMBULANCE SVC INC	PND02571	155.3400	PM
MONTICELLO	TRANSCARE AMBULANCE SVC INC	PND02571	155.4000	PM
MORGANTOWN	MORGANTOWN HOUSING AUTHORITY	PND02764	155.7750	PL
PEACH GROV	PENDLETON, COUNTY OF	PND02570	154.1750	PF
PEACH GROV	PENDLETON, COUNTY OF	PND02570	154.2800	PF
SALT LICK	BATH COUNTY WATER DISTRICT	PNA00017	173.3962	PL
SEBREE	SEBREE, CITY OF	PNR10688	155.5200	PP
SOMERSET	SHOPVILLE STAB VOLUN. FIRE DE	PND01738	453.0750	PF
SOMERSET	SHOPVILLE STAB VOLUN. FIRE DE	PND01738	458.0750	PF
WOLF CREEK	WOLF CREEK VOLUNTEER FIRE DEPT	PND02832	153.7700	PF
WOLF CREEK	WOLF CREEK VOLUNTEER FIRE DEPT	PND02832	154.1750	PF

Louisiana

	MORGAN CITY HARBOR & TERMINAL	PND01707	453.9125	PL
	WASHINGTON, PARISH OF	PNR12155	851.0000	YP
ACY	ACADIAN AMBULANCE SVCS INC	PND02833	155.2200	PS
ACY	ACADIAN AMBULANCE SVCS INC	PND02833	155.2950	PS
ALEXANDRIA	AMERICAN RED CROSS	PND02732	47.4200	PS
ARCADIA	BIENVILLE PARISH FIRE PROTECTION	PND02831	153.8900	PF
BATON ROUG	ACADIAN AMBULANCE SVCS INC	PND02833	155.2200	PS
BATON ROUG	ACADIAN AMBULANCE SVCS INC	PND02833	155.2950	PS
GREENSBURG	SAINT HELENA, PARISH OF	PNA00011	154.9500	PP
GREENSBURG	SAINT HELENA, PARISH OF	PNA00011	155.6550	PP
HAMMOND	ACADIAN AMBULANCE SVCS INC	PND02833	155.2200	PS
HAMMOND	ACADIAN AMBULANCE SVCS INC	PND02833	155.2350	PS
HAMMOND	ACADIAN AMBULANCE SVCS INC	PND02833	155.2950	PS
IRENE	ACADIAN AMBULANCE SVCS INC	PND02833	155.2200	PS
IRENE	ACADIAN AMBULANCE SVCS INC	PND02833	155.2950	PS
JAMESTOWN	BIENVILLE PARISH FIRE PROTECTION	PND02831	153.8900	PF
JAMESTOWN	BIENVILLE PARISH FIRE PROTECTION	PND02831	154.4150	PF
LAFAYETTE	LAFAYETTE, CITY OF	PNA00029	860.9375	GP
NATCHITOCH	NATCHITOCHES, PARISH OF	PNA00012	155.1900	PP
NEW ROADS	ACADIAN AMBULANCE SVCS INC	PND02833	155.2200	PS
NEW ROADS	ACADIAN AMBULANCE SVCS INC	PND02833	155.2950	PS
VIDALIA	VIDALIA, CITY OF	PNA00013	453.8500	PL

Massachusetts

	BEDFORD, TOWN OF	PNR12837	33.6600	PF
	BEDFORD, TOWN OF	PNR12837	154.2200	PF
	NORTHAMPTON, CITY OF	PNR12814	154.2200	PF
	NORTHAMPTON, CITY OF	PNR12814	154.3700	PF
	ROWLEY VOLUNTEER FIRE PROT.	PND02737	453.3875	PF
	ROWLEY VOLUNTEER FIRE PROT.	PND02737	458.3875	PF
	ROWLEY VOLUNTEER FIRE PROT.	PND02737	460.6375	PF
	SAINTS MEMORIAL MEDICAL CENTER	PND02637	453.2875	PM
	SAINTS MEMORIAL MEDICAL CENTER	PND02637	458.2875	PM
ADAMS	MASSACHUSETTS, COMMONWEALTH	PNR12356	173.0750	PP
ANDOVER	MASSACHUSETTS, COMMONWEALTH	PNR12356	173.0750	PP
BELMONT	BELMONT, TOWN OF	PNR12815	153.7700	PF
BELMONT	BELMONT, TOWN OF	PNR12815	153.8300	PF
BELMONT	BELMONT, TOWN OF	PNR12815	154.1300	PF
BELMONT	BELMONT, TOWN OF	PNR12815	154.2200	PF
BILLERICA	TOWNSEND, TOWN OF	PND02570	33.6600	PF
BILLERICA	TOWNSEND, TOWN OF	PND02570	33.7600	PF
BILLERICA	TOWNSEND, TOWN OF	PND02570	460.6250	PF
BOSTON	MASSACHUSETTS, COMMONWEALTH	PNR12356	173.0750	PP
CANTON	MASSACHUSETTS, COMMONWEALTH	PNR12356	173.0750	PP
DOVER	DOVER, TOWN OF	PNR12361	33.5000	PF
FAIRHAVEN	FAIRHAVEN, TOWN OF	PNR10345	485.8125	PP
FALL RIVER	MASSACHUSETTS, COMMONWEALTH	PNR12356	173.0750	PP
LANCASTER	LANCASTER, TOWN OF	PNR12823	45.1600	PL
LEXINGTON	LEXINGTON, TOWN OF	PNR11777	154.1300	PF
LEXINGTON	LEXINGTON, TOWN OF	PNR11777	154.2200	PF
LEXINGTON	LEXINGTON, TOWN OF	PNR11777	154.2650	PF
LEXINGTON	LEXINGTON, TOWN OF	PNR11777	154.3400	PF
LEXINGTON	LEXINGTON, TOWN OF	PNR11777	465.5875	PF
MARSHFIELD	PHILLIPS JR, CLARKE A	PNR12070	155.2800	PS
NEW BEDFOR	FAIRHAVEN, TOWN OF	PNR10345	482.8125	PP
NEW BEDFOR	FAIRHAVEN, TOWN OF	PNR10345	485.8125	PP
NEWBURYPOR	NEWBURYPORT, CITY OF	PNR12016	482.3625	PP
NEWBURYPOR	NEWBURYPORT, CITY OF	PNR12016	482.8375	PP
NEWBURYPOR	NEWBURYPORT, CITY OF	PNR12016	483.0125	PP
NEWBURYPOR	NEWBURYPORT, CITY OF	PNR12016	483.1375	PP
NEWBURYPOR	NEWBURYPORT, CITY OF	PNR12016	483.7375	PP
NEWBURYPOR	NEWBURYPORT, CITY OF	PNR12016	485.3625	PP
NEWBURYPOR	NEWBURYPORT, CITY OF	PNR12016	485.8375	PP
NEWBURYPOR	NEWBURYPORT, CITY OF	PNR12016	486.0125	PP
NEWBURYPOR	NEWBURYPORT, CITY OF	PNR12016	486.7375	PP
NORTHAMPTO	NORTHAMPTON, CITY OF	PNR12814	154.2200	PF
NORTHAMPTO	NORTHAMPTON, CITY OF	PNR12814	154.3700	PF
PRINCETON	MASSACHUSETTS, COMMONWEALTH	PNR12356	173.0750	PP
ROWLEY	ROWLEY VOLUNTEER FIRE PROT.	PND02737	154.1450	PF
ROWLEY	ROWLEY VOLUNTEER FIRE PROT.	PND02737	154.2950	PF
SALISBURY	NEWBURYPORT, CITY OF	PNR12016	483.7375	PP
SAUGUS	SAUGUS, TOWN OF	PNA00030	159.3600	PP
TOWNSEND	TOWNSEND, TOWN OF	PND02570	33.7000	PF
TOWNSEND	TOWNSEND, TOWN OF	PND02570	46.1600	PF

Maryland

	CAROLINE, COUNTY OF	PNA00032	460.4125	PP
	CHARLES, COUNTY OF	PNR12121	46.5400	PL
	CHARLES, COUNTY OF	PNR12829	46.5400	PL
EAST NEW M	EAST NEW MARKET VOL FIRE CO INC	PNR11767	46.0600	PF
LA PLATA	CHARLES, COUNTY OF	PNR12121	46.5400	PL
LA PLATA	CHARLES, COUNTY OF	PNR12829	46.5400	PL
LINKWOOD	LINKWOOD SALEM VOL FIRE CO INC	PND02694	46.0600	PF
LINKWOOD	LINKWOOD SALEM VOL FIRE CO INC	PND02694	46.4000	PF
MOUNT AIRY	MOUNT AIRY, TOWN OF	PNR12836	158.8350	PL
PERRYVILLE	MARYLAND TRANSPORTATION AUTH.	PNA00029	453.2250	PL

Maine

	CAMBRIDGE, TOWN OF	PND02572	154.2650	PF
ADAMSTOWN	MAINE, STATE OF	PND02687	456.1750	PH
BRUNSWICK	AMERICAN NATIONAL RED CROSS	PNR10149	47.4200	PS

CAMBRIDGE	CAMBRIDGE, TOWN OF	PND02572	154.4150	PF
CARRABASSE	MAINE, STATE OF	PND02687	47.3400	PH
CARRABASSE	SOMERSET, COUNTY OF	PND02626	154.3250	PF
DEDHAM	HANCOCK, COUNTY OF	PNA00010	155.8350	PL
DEDHAM	HANCOCK, COUNTY OF	PNA00010	453.7750	PL
ELLSWORTH	HANCOCK, COUNTY OF	PNA00010	458.7750	PL
EUSTIS	MAINE, STATE OF	PND02687	456.1750	PH
FREEMAN TO	MAINE, STATE OF	PND02687	456.1750	PH
HANCOCK	SULLIVAN, TOWN OF	PNA00026	458.7250	PL
JOHNSON MO	MAINE, STATE OF	PND02687	456.1750	PH
LIVERMORE	CAMBRIDGE, TOWN OF	PND02572	154.2650	PF
LIVERMORE	CAMBRIDGE, TOWN OF	PND02572	154.3100	PF
SORRENTO	SULLIVAN, TOWN OF	PNA00026	154.0850	PL
SORRENTO	SULLIVAN, TOWN OF	PNA00026	458.7250	PL
SOUTH HIRA	HIRAM, TOWN OF	PNR11768	155.0400	PL
SULLIVAN	SULLIVAN, TOWN OF	PNA00026	154.0850	PL
SULLIVAN	SULLIVAN, TOWN OF	PNA00026	453.7250	PL
SULLIVAN	SULLIVAN, TOWN OF	PNA00026	458.7250	PL
WARREN	WARREN, TOWN OF	PNR11849	33.7000	PF
WARREN	WARREN, TOWN OF	PNR11849	154.3100	PF
WARREN	WARREN, TOWN OF	PNR11849	154.4300	PF

Michigan

	ALLEN PARK, CITY OF	PND00318	155.0550	PL
	ALPENA, TOWNSHIP OF	PND01273	458.1000	PP
	ANN ARBOR, CITY OF	PNA00018	155.8650	PL
	BAY, COUNTY OF	PND02573	451.7875	IS
	BAY, COUNTY OF	PND02573	456.7875	IS
	JACKSON, CITY OF	PND00386	451.1375	IW
	JACKSON, CITY OF	PND00386	456.1375	IW
	MICHIGAN STATE UNIVERSITY	PND01601	155.9100	PL
	SAINT JAMES, TOWNSHIP OF	PND02570	154.2950	PF
	S. CLINTON COUNTY MUNICIPA	PND00888	453.9125	PL
	ST JAMES, TOWNSHIP OF	PND02628	155.3400	PM
	ST JAMES, TOWNSHIP OF	PND02628	458.0750	PM
ALLEGAN	ALLEGAN, COUNTY OF	PND02690	856.4875	GP
ALLEGAN	BARRY, COUNTY OF	PNA00024	856.4875	GP
ALLEN	ALLEN, TOWNSHIP OF	PNR12058	33.7800	PF
ALPENA	ALPENA, TOWNSHIP OF	PND01273	458.8250	PL
BENTON HAR	ANN ARBOR, CITY OF	PNA00018	453.7750	PL
BENTON HAR	ANN ARBOR, CITY OF	PNA00018	458.7750	PL
BOYNE CITY	MICHIGAN, STATE OF	PND01170	44.6400	PO
BOYNE CITY	MICHIGAN, STATE OF	PND01170	44.7200	PO
BOYNE CITY	MICHIGAN, STATE OF	PND01170	44.8000	PO
BOYNE CITY	MICHIGAN, STATE OF	PND01170	44.8400	PO
BOYNE CITY	MICHIGAN, STATE OF	PND01170	44.8800	PO
BOYNE CITY	MICHIGAN, STATE OF	PND01170	159.4500	PO
BROOKLYN	BROOKLYN, VILLAGE OF	PND02630	451.2000	IW
BROOKLYN	BROOKLYN, VILLAGE OF	PND02630	456.2000	IW
CALUMET	PUBLIC SCH. OF CALUMET LAURIU	PND02689	155.2050	PS
CHELSEA	MICHIGAN, STATE OF	PND01031	173.0750	PP
CLAWSON	CLAWSON, CITY OF	PNR12838	153.8300	PF
CLAWSON	CLAWSON, CITY OF	PNR12838	154.2350	PF
CLAWSON	CLAWSON, CITY OF	PNR12838	154.2950	PF
CLAWSON	CLAWSON, CITY OF	PNR12838	154.3850	PF
CLINTON TO	CLINTON, TOWNSHIP OF	PNA00022	460.3250	PP
COLUMBIAVI	COLUMBIAVILLE, VILLAGE OF	PNR12829	154.4787	PL
CRYSTAL FA	MICHIGAN, STATE OF	PND02580	453.8000	PO
DELTON	ALLEGAN, COUNTY OF	PND02690	856.4875	GP
DELTON	BARRY, COUNTY OF	PNA00024	856.4875	GP
DETROIT	MICHIGAN, STATE OF	PND01031	173.0750	PP
DURAND	ST JAMES, TOWNSHIP OF	PND02628	155.1600	PM
DURAND	ST JAMES, TOWNSHIP OF	PND02628	155.1750	PM
DURAND	ST JAMES, TOWNSHIP OF	PND02628	155.2800	PM
DURAND	ST JAMES, TOWNSHIP OF	PND02628	155.3400	PM
EAGLE RIVE	PUBLIC SCH. OF CALUMET LAURIU	PND02689	155.2050	PS
ESCANABA	DELTA, COUNTY OF	PNA00017	155.5500	PP
ESCANABA	DELTA, COUNTY OF	PNA00017	158.9700	PP
ESCANABA	MICHIGAN, STATE OF	PND02580	453.1000	PO
FAIRGROVE	MICHIGAN, STATE OF	PND01031	173.0750	PP
FAYETTE	MICHIGAN, STATE OF	PND02694	44.6400	PO
FAYETTE	MICHIGAN, STATE OF	PND02694	44.7200	PO
FAYETTE	MICHIGAN, STATE OF	PND02694	44.8000	PO
FAYETTE	MICHIGAN, STATE OF	PND02694	44.8400	PO
FAYETTE	MICHIGAN, STATE OF	PND02694	44.8800	PO
GOODRICH	MICHIGAN, STATE OF	PND01031	173.0750	PP
HASTINGS	ALLEGAN, COUNTY OF	PND02690	856.4875	GP
HASTINGS	BARRY, COUNTY OF	PNA00024	856.4875	GP
HERMAN	MICHIGAN, STATE OF	PND02580	453.1000	PO
HIGHLAND P	HIGHLAND PARK, CITY OF	PNR12821	158.8650	PL
INDIAN RIV	MICHIGAN, STATE OF	PND01170	44.6400	PO
INDIAN RIV	MICHIGAN, STATE OF	PND01170	44.7200	PO
INDIAN RIV	MICHIGAN, STATE OF	PND01170	44.8000	PO
INDIAN RIV	MICHIGAN, STATE OF	PND01170	44.8400	PO
INDIAN RIV	MICHIGAN, STATE OF	PND01170	44.8800	PO
JACKSON	ANN ARBOR, CITY OF	PNA00018	155.7150	PL
KALAMAZOO	MICHIGAN, STATE OF	PND01031	173.0750	PP
KALAMAZOO	MONROE, COUNTY OF	PNA00027	155.1900	PP
KALAMAZOO	MONROE, COUNTY OF	PNA00027	155.6850	PP
LANSING	MICHIGAN CAPITAL HEALTHCARE	PND00029	152.0075	PS
MACKINAW C	MICHIGAN, STATE OF	PND01170	44.6400	PO
MACKINAW C	MICHIGAN, STATE OF	PND01170	44.7200	PO
MACKINAW C	MICHIGAN, STATE OF	PND01170	44.8000	PO
MACKINAW C	MICHIGAN, STATE OF	PND01170	44.8400	PO
MACKINAW C	MICHIGAN, STATE OF	PND01170	44.8800	PO
MANISTIQUE	MANISTIQUE, CITY OF	PND00413	458.3750	PL
MANISTIQUE	MICHIGAN, STATE OF	PND02694	44.6400	PO
MANISTIQUE	MICHIGAN, STATE OF	PND02694	44.7200	PO
MANISTIQUE	MICHIGAN, STATE OF	PND02694	44.8000	PO
MANISTIQUE	MICHIGAN, STATE OF	PND02694	44.8400	PO
MANISTIQUE	MICHIGAN, STATE OF	PND02694	44.8800	PO
MANSITQUE	MANISTIQUE, CITY OF	PND00413	458.3750	PL
MARQUETTE	MICHIGAN, STATE OF	PND02580	44.6400	PO
MARQUETTE	MICHIGAN, STATE OF	PND02580	44.7200	PO
MARQUETTE	MICHIGAN, STATE OF	PND02580	44.8000	PO
MARQUETTE	MICHIGAN, STATE OF	PND02580	44.8400	PO
MARQUETTE	MICHIGAN, STATE OF	PND02580	44.9200	PO
MARQUETTE	MICHIGAN, STATE OF	PND02580	151.1900	PO
MARQUETTE	MICHIGAN, STATE OF	PND02580	458.1000	PO
MARQUETTE	MICHIGAN, STATE OF	PND02580	458.8000	PO
MOUNT CLEM	CLINTON, TOWNSHIP OF	PNA00022	460.3250	PP
MOUNT CLEM	CLINTON, TOWNSHIP OF	PNA00022	465.3250	PP
ONONDAGA	MICHIGAN, STATE OF	PND01031	173.0750	PP
ORCHARD LA	TRI CITY FIRE DEPARTMENT	PND02731	154.2950	PF
ORCHARD LA	TRI CITY FIRE DEPARTMENT	PND02731	154.4300	PF
PETOSKEY	MICHIGAN, STATE OF	PND01170	44.6400	PO
PETOSKEY	MICHIGAN, STATE OF	PND01170	44.7200	PO
PETOSKEY	MICHIGAN, STATE OF	PND01170	44.8000	PO
PETOSKEY	MICHIGAN, STATE OF	PND01170	44.8400	PO
PETOSKEY	MICHIGAN, STATE OF	PND01170	44.8800	PO
PETOSKEY	MICHIGAN, STATE OF	PND01170	151.1600	PO
PETOSKEY	MICHIGAN, STATE OF	PND01170	151.2200	PO
PETOSKEY	MICHIGAN, STATE OF	PND01170	159.4500	PO
RAPID RIVE	DELTA, COUNTY OF	PNA00017	155.5500	PP
SAINT IGNA	MICHIGAN, STATE OF	PND02694	44.6400	PO
SAINT IGNA	MICHIGAN, STATE OF	PND02694	44.7200	PO
SAINT IGNA	MICHIGAN, STATE OF	PND02694	44.8000	PO
SAINT IGNA	MICHIGAN, STATE OF	PND02694	44.8400	PO
SAINT IGNA	MICHIGAN, STATE OF	PND02694	44.8800	PO
SAINT IGNA	MICHIGAN, STATE OF	PND02694	151.3400	PO
SAINT IGNA	SAINT IGNACE, CITY OF	PND00169	154.0550	PL
SAINT IGNA	SAINT IGNACE, CITY OF	PND00169	155.8650	PL
SCHOOLCRAF	SCHOOLCRAFT, VILLAGE OF	PND02766	153.9350	PP
SCHOOLCRAF	SCHOOLCRAFT, VILLAGE OF	PND02766	158.7300	PP
SWARTZ CRE	ST JAMES, TOWNSHIP OF	PND02628	155.1600	PM
SWARTZ CRE	ST JAMES, TOWNSHIP OF	PND02628	155.1750	PM
TAWAS CITY	TAWAS ST JOSEPH HOSPITAL	PND02547	155.3550	PM
TAYLOR	MICHIGAN, STATE OF	PND01138	866.5750	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	866.6000	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	866.6250	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	866.8250	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	867.0500	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	867.1250	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	867.2000	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	867.2625	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	867.5750	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	867.7750	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	867.8000	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	867.8250	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	868.0750	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	868.1000	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	868.1250	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	868.3375	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	868.5875	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	868.6500	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	868.7500	YF
TAYLOR	MICHIGAN, STATE OF	PND01138	868.8375	YF
TEMPERANCE	MONROE, COUNTY OF	PNA00027	453.3750	PL
VICKSBURG	VICKSBURG COMMUNITY SCHOOLS	PNR12837	155.2650	PS

Minnesota

	AITKIN, COUNTY OF	PND02728	156.2400	PH
	AITKIN, COUNTY OF	PND02728	159.0000	PH
	AITKIN, COUNTY OF	PND02728	159.1350	PH
	CARLTON, COUNTY OF	PND01254	153.9950	PL
	CARLTON, COUNTY OF	PND01254	158.8050	PL
	CHISAGO, COUNTY OF	PNA00027	453.8000	PL
	CHISAGO, COUNTY OF	PNA00027	458.8000	PL
	COOK, COUNTY OF	PNA00019	154.6500	PP
	COOK, COUNTY OF	PNA00019	154.9500	PP
	COOK, COUNTY OF	PNA00019	155.1900	PP
	COOK, COUNTY OF	PNA00019	155.4750	PP
	MINNESOTA, STATE OF	PND02625	464.8625	IB
	OAKDALE, CITY OF	PND02707	451.3875	IW
	OAKDALE, CITY OF	PND02707	456.3875	IW
AITKIN	AITKIN, COUNTY OF	PND02728	156.2400	PH
AITKIN	AITKIN, COUNTY OF	PND02728	159.1350	PH
BARNUM	CARLTON, COUNTY OF	PND01254	153.9950	PL
BARNUM	CARLTON, COUNTY OF	PND01254	158.8050	PL
CAMBRIDGE	CAMBRIDGE STATE HOSPITAL	PN012516	158.7750	PL
CARLTON	CARLTON, COUNTY OF	PND01254	153.9950	PL
CLOQUET	CARLTON, COUNTY OF	PND01254	158.8050	PL
CROMWELL	CARLTON, COUNTY OF	PND01254	158.8050	PL
ELBOW LAKE	GRANT, COUNTY OF	PNA00023	154.7100	PP

ELBOW LAKE	GRANT, COUNTY OF	PNA00023	155.1300	PP
ELBOW LAKE	GRANT, COUNTY OF	PNA00023	155.3700	PP
ELBOW LAKE	GRANT, COUNTY OF	PNA00023	155.4750	PP
ELBOW LAKE	GRANT, COUNTY OF	PNA00023	155.8500	PP
ELBOW LAKE	GRANT, COUNTY OF	PNA00023	155.9100	PP
FINLAND	MINNESOTA, STATE OF	PND02625	151.1900	PO
GAYLORD	CHAMPION COMMUNICATION SVC	PND02788	159.7050	PH
GRAND MARA	COOK, COUNTY OF	PNA00019	154.6500	PP
GRAND MARA	COOK, COUNTY OF	PNA00019	154.9500	PP
GRAND MARA	COOK, COUNTY OF	PNA00019	155.1900	PP
GRAND MARA	COOK, COUNTY OF	PNA00019	155.4750	PP
GRAND MARA	COOK, COUNTY OF	PNA00019	155.7900	PP
GRAND PORT	COOK, COUNTY OF	PNA00019	155.7900	PP
GRANITE FA	MINNESOTA, STATE OF	PND01656	151.0550	PH
GRYGLA	MINNESOTA, STATE OF	PND02731	151.3400	PO
GRYGLA	MINNESOTA, STATE OF	PND02731	151.3850	PO
GRYGLA	MINNESOTA, STATE OF	PND02731	151.4150	PO
GRYGLA	MINNESOTA, STATE OF	PND02731	151.4750	PO
GRYGLA	MINNESOTA, STATE OF	PND02731	159.4350	PO
HILL CITY	AITKIN, COUNTY OF	PND02728	159.1350	PH
KELLIHER	KELLIHER, CITY OF	PND02571	154.1300	PF
KELLIHER	KELLIHER, CITY OF	PND02571	154.2950	PF
KELLIHER	KELLIHER, CITY OF	PND02571	154.3400	PF
LA CRESCEN	LA CRESCENT, CITY OF	PNR12099	154.6500	PP
LA CRESCEN	LA CRESCENT, CITY OF	PNR12099	155.3100	PP
LA CRESCEN	LA CRESCENT, CITY OF	PNR12099	155.3700	PP
LA CRESCEN	LA CRESCENT, CITY OF	PNR12099	155.4750	PP
LAKE BRONS	MINNESOTA, STATE OF	PND02731	151.3850	PO
LE CENTER	LE CENTER DISTRICT 392	PND02805	155.1750	PS
LONG PRAIR	GRANT, COUNTY OF	PNA00023	155.0850	PL
LUTSEN	COOK, COUNTY OF	PNA00019	155.7900	PP
MADISON	MINNESOTA, STATE OF	PND01656	151.0550	PH
MC GRATH	AITKIN, COUNTY OF	PND02728	159.1350	PH
MINNEAPOLI	ANDERSON, TIMOTHY L	PND02766	173.2875	PL
MINNEAPOLI	GRANT, COUNTY OF	PNA00023	153.7400	PL
MINNEAPOLI	GRANT, COUNTY OF	PNA00023	153.8000	PL
MINNEAPOLI	GRANT, COUNTY OF	PNA00023	153.9650	PL
MINNEAPOLI	GRANT, COUNTY OF	PNA00023	155.0250	PL
MINNEAPOLI	GRANT, COUNTY OF	PNA00023	155.7150	PL
MINNEAPOLI	GRANT, COUNTY OF	PNA00023	155.8650	PL
MINNEAPOLI	GRANT, COUNTY OF	PNA00023	458.6000	PL
MINNEAPOLI	MINNEAPOLIS, CITY OF	PND02639	460.3500	PP
MINNEAPOLI	MINNEAPOLIS, CITY OF	PND02639	460.5000	PP
MINNEAPOLI	MINNEAPOLIS, CITY OF	PND02639	465.3500	PP
MINNEAPOLI	MINNEAPOLIS, CITY OF	PND02639	465.5000	PP
MOOSE LAKE	CARLTON, COUNTY OF	PND01254	153.9950	PL
MORTON	MINNESOTA, STATE OF	PND01656	151.0250	PH
NEW LONDON	MINNESOTA, STATE OF	PND01656	151.0250	PH
OAKDALE	OAKDALE, CITY OF	PND02629	173.3900	IW
OAKDALE	OAKDALE, CITY OF	PND02707	173.3900	IW
ROOSEVELT	MINNESOTA, STATE OF	PND02731	151.3850	PO
RUSSEL	MINNESOTA, STATE OF	PND01656	151.0700	PH
SOUDAN	MINNESOTA, STATE OF	PND02829	151.1900	PO
SOUDAN	MINNESOTA, STATE OF	PND02829	151.3700	PO
SOUDAN	MINNESOTA, STATE OF	PND02829	151.4150	PO
SOUDAN	MINNESOTA, STATE OF	PND02829	159.2400	PO
SOUTH SAIN	SOUTH SAINT PAUL, CITY OF	PND02585	153.8000	PL
SOUTH SAIN	SOUTH SAINT PAUL, CITY OF	PND02585	158.8200	PL
WADENA	WADENA, CITY OF	PNR12357	155.8650	PL
WANNASKA	MINNESOTA, STATE OF	PND02731	151.3400	PO
WANNASKA	MINNESOTA, STATE OF	PND02731	151.3850	PO
WANNASKA	MINNESOTA, STATE OF	PND02731	151.4150	PO
WANNASKA	MINNESOTA, STATE OF	PND02731	151.4750	PO
WANNASKA	MINNESOTA, STATE OF	PND02731	159.4350	PO
WARROAD	MINNESOTA, STATE OF	PND02731	151.3850	PO
WARROAD	MINNESOTA, STATE OF	PND02731	151.4150	PO
WARROAD	MINNESOTA, STATE OF	PND02731	159.4350	PO
WILLMAR	MINNESOTA, STATE OF	PND01656	156.1350	PH
WINONA	AM CARE AMBULANCE SERVICE INC	PND02832	155.2350	PS
WRENSHALL	WRENSHALL HIGH SCHOOL	PNR12543	155.1600	PS
ZUMBROTA	ZUMBROTA, CITY OF	PNA00012	153.9650	PL
ZUMBROTA	ZUMBROTA, CITY OF	PNA00012	155.8200	PL

Missouri

	CARROLLTON, TOWN OF	PNR11876	456.0625	IW
	MEXICO, CITY OF	PNA00022	153.9200	PL
	NORTH KANSAS CITY, CITY OF	PNA00019	856.7125	YP
	NORTH KANSAS CITY, CITY OF	PNA00019	857.7125	YP
	NORTH KANSAS CITY, CITY OF	PNA00019	858.7125	YP
	NORTH KANSAS CITY, CITY OF	PNA00019	859.7125	YP
	NORTH KANSAS CITY, CITY OF	PNA00019	860.7125	YP
	SAINT CHARLES, COUNTY OF	PNR11699	159.1050	PH
CAPE GIRAR	CURATORS OF THE U. OF MI	PND02805	153.7850	PL
CAPE GIRAR	CURATORS OF THE U. OF MI	PND02805	160.0050	PL
COLUMBIA	CURATORS OF THE U. OF MI	PND02805	855.7125	GP
COLUMBIA	CURATORS OF THE U. OF MI	PND02805	856.2625	GP
EAGLE ROCK	EAGLE ROCK GOLDEN MANO FIRE	PND02626	154.1450	PF
EAGLE ROCK	EAGLE ROCK GOLDEN MANO FIRE	PND02626	159.0750	PF
GRASSY	NORTH KANSAS CITY, CITY OF	PNA00019	155.5200	PP
GRASSY	NORTH KANSAS CITY, CITY OF	PNA00019	156.1500	PP
HARRISONVI	AMERICAN NATIONAL RED CROSS	PND02707	47.4200	PS
HARVESTER	SAINT CHARLES, COUNTY OF	PNR11699	159.1050	PH
INDEPENDEN	INDEPENDENCE, CITY OF	PND02631	154.2800	PF
INDEPENDEN	INDEPENDENCE, CITY OF	PND02631	154.3100	PF
KANSAS CIT	AMERICAN NATIONAL RED CROSS	PND02708	47.4200	PS
KANSAS CIT	AMERICAN NATIONAL RED CROSS	PND02715	47.4200	PS
LINN	SOUTHERN PLATTE FIRE PROT.	PNR12241	151.0550	PH
MARBLE HIL	NORTH KANSAS CITY, CITY OF	PNA00019	156.1500	PP
NORTH KANS	NORTH KANSAS CITY, CITY OF	PNA00019	856.7125	YP
NORTH KANS	NORTH KANSAS CITY, CITY OF	PNA00019	857.7125	YP
NORTH KANS	NORTH KANSAS CITY, CITY OF	PNA00019	858.7125	YP
NORTH KANS	NORTH KANSAS CITY, CITY OF	PNA00019	859.7125	YP
NORTH KANS	NORTH KANSAS CITY, CITY OF	PNA00019	860.7125	YP
OSCEOLA	ST CLAIR CO. FIRE AND RESCUE	PND02730	154.2050	PF
OSCEOLA	ST CLAIR CO. FIRE AND RESCUE	PND02730	154.2800	PF
PAGEDALE	PAGEDALE, CITY OF	PNR12542	155.7750	PL
PAGEDALE	PAGEDALE, CITY OF	PNR12542	155.9250	PL
PUXICO	PUXICO, CITY OF	PNR12543	155.8050	PL
SAINT JOSE	MISSOURI, STATE OF	PND02764	453.2250	PL
SAINT JOSE	MISSOURI, STATE OF	PND02764	453.6000	PL
SAINT JOSE	MISSOURI, STATE OF	PND02764	453.8250	PL
SAINT JOSE	MISSOURI, STATE OF	PND02764	458.2250	PL
SAINT JOSE	MISSOURI, STATE OF	PND02764	458.8250	PL
SALEM	SALEM, CITY OF	PND02630	451.1750	IW
VIENNA	BELLE, CITY OF	PND02627	154.0100	PF
VIENNA	BELLE, CITY OF	PND02627	154.2800	PF
WARRENSBUR	JOHNSON COUNTY FIRE PROT.	PND02572	154.1900	PF
WARRENSBUR	JOHNSON COUNTY FIRE PROT.	PND02572	154.2800	PF
WARRENSBUR	JOHNSON COUNTY FIRE PROT.	PND02572	154.3700	PF
WENTZVILLE	SAINT CHARLES, COUNTY OF	PNR11699	159.1050	PH

Mississippi

	SINGING RIVER HOSPITAL SYSTEM	PNR12835	155.3400	PS
BAY SPRING	BAY SPRINGS, TOWN OF	PNA00029	153.9800	PL
BAY SPRING	BAY SPRINGS, TOWN OF	PNA00029	155.9400	PL
BOYLE	BOYLE, TOWN OF	PNA00027	155.7000	PP
BRANDON	BRANDON, CITY OF	PNR11916	46.5200	PL
BRANDON	BRANDON, CITY OF	PNR11916	155.0250	PL
BRANDON	BRANDON, CITY OF	PNR11916	155.8050	PL
CLEVELAND	MS DEPT OF WILDLIFE FISHERIES AN	PND02731	44.8800	PO
CLEVELAND	MS DEPT OF WILDLIFE FISHERIES AN	PND02731	45.0000	PO
CLEVELAND	MS DEPT OF WILDLIFE FISHERIES AN	PND02731	45.0400	PO
COLLINS	COLLINS, CITY OF	PND01707	155.4900	PP
COLLINS	COLLINS, CITY OF	PND01707	155.6550	PP
COLLINS	COLLINS, CITY OF	PND01707	158.9100	PP
DREW	DREW, CITY OF	PNA00030	154.8600	PP
DREW	DREW, CITY OF	PNA00030	155.7750	PL
FALKNER	FALKNER, TOWN OF	PNR12544	154.1600	PF
FALKNER	FALKNER, TOWN OF	PNR12544	154.3100	PF
GREENWOOD	MISSISSIPPI, STATE OF	PND02630	47.1400	PH
GREENWOOD	MISSISSIPPI, STATE OF	PND02630	47.2600	PH
LAUREL	BOYLE, TOWN OF	PNA00027	453.6250	PL
LAUREL	BOYLE, TOWN OF	PNA00027	460.5000	PL
LYON	MISSISSIPPI, STATE OF	PND02846	47.1400	PH
LYON	MISSISSIPPI, STATE OF	PND02846	47.2600	PH
OCEAN SPRI	SINGING RIVER HOSPITAL SYSTEM	PNR12835	163.2500	PS
PASCAGOULA	SINGING RIVER HOSPITAL SYSTEM	PNR12835	155.3400	PS
PASCAGOULA	SINGING RIVER HOSPITAL SYSTEM	PNR12835	163.2500	PS
PASCAGOULA	SINGING RIVER HOSPITAL SYSTEM	PNR12835	462.3000	PS
PONTOTOC	PONTOTOC, CITY OF	PND01706	460.4250	PP
PONTOTOC	PONTOTOC, CITY OF	PND01706	465.2250	PP
PONTOTOC	PONTOTOC, CITY OF	PND01706	465.4250	PP
SANDY HOOK	WALTHALL 3RD DISTRICT VOLUN.	PND02831	154.3250	PF
SARDIS	SARDIS, CITY OF	PNR12543	45.2200	PP
SARDIS	SARDIS, CITY OF	PNR12543	45.4600	PP

Montana

EMIGRANT	PARADISE VALLEY FIRE SERVICE ARE	PND02627	153.9500	PF
EMIGRANT	PARADISE VALLEY FIRE SERVICE ARE	PND02627	154.1900	PF
JORDAN	GARFIELD, COUNTY OF	PND02583	154.8000	PP
JORDAN	GARFIELD, COUNTY OF	PND02583	158.7900	PP
MILES CITY	GARFIELD, COUNTY OF	PND02583	158.7900	PP
PLENTYWOOD	SHERIDAN, COUNTY OF	PN216331	156.2250	PH
PLENTYWOOD	SHERIDAN, COUNTY OF	PN216331	159.1350	PH

North Carolina

	CROOKED CREEK VOLUN. DEP	PND02626	154.1600	PF
	CROOKED CREEK VOLUN. DEP	PND02626	155.1750	PS
	DURHAM, COUNTY OF	PNR12357	153.7700	PF
	DURHAM, COUNTY OF	PNR12357	154.1300	PF
	DURHAM, COUNTY OF	PNR12357	154.1900	PF
	DURHAM, COUNTY OF	PNR12357	154.2800	PF
	DURHAM, COUNTY OF	PNR12357	154.2950	PF
	DURHAM, COUNTY OF	PNR12357	154.3100	PF
	DURHAM, COUNTY OF	PNR12357	154.3250	PF
	DURHAM, COUNTY OF	PNR12357	154.4000	PF
	DURHAM, COUNTY OF	PNR12357	154.4300	PF
	GRANVILLE, COUNTY OF	PND02729	154.0100	PF
	GRANVILLE, COUNTY OF	PND02729	154.2050	PF
	GRANVILLE, COUNTY OF	PND02729	154.2350	PF
	MADISON ROCKINGHAM RESCUE SQ.	PND02728	155.1600	PS
	MANTEO, TOWN OF	PNR11635	460.2500	PP
	MANTEO, TOWN OF	PNR11635	465.0250	PP
	MANTEO, TOWN OF	PNR11635	465.2500	PP
	MANTEO, TOWN OF	PNR11635	465.3750	PP

	MURPHY, TOWN OF	PND02571	154.2200	PF
	MURPHY, TOWN OF	PND02571	154.3700	PF
	NORTH CAROLINA, STATE OF	PND01708	460.4875	PL
	WAKE, COUNTY OF	PND02712	866.2875	GF
BLACK CREE	WILSON, COUNTY OF	PND02765	154.9800	PL
BUXTON	NORTH CAROLINA, STATE OF	PND02788	47.2600	PH
BUXTON	NORTH CAROLINA, STATE OF	PND02788	47.3200	PH
CHAPEL HIL	NEW HOPE FIRE DEPARTMENT	PND02833	154.3550	PF
CHAPEL HIL	NEW HOPE FIRE DEPARTMENT	PND02833	154.4000	PF
CHARLOTTE	MECKLENBURG, COUNTY OF	PND00314	851.3375	YP
CHARLOTTE	MECKLENBURG, COUNTY OF	PND00314	851.3625	YP
CHARLOTTE	MECKLENBURG, COUNTY OF	PND00314	852.3375	YP
CHARLOTTE	MECKLENBURG, COUNTY OF	PND00314	852.3625	YP
CHARLOTTE	MECKLENBURG, COUNTY OF	PND00314	853.3375	YP
COOL SPRIN	IREDELL, COUNTY OF	PNA00014	453.6500	PP
COOL SPRIN	IREDELL, COUNTY OF	PNA00014	453.7000	PP
COOL SPRIN	IREDELL, COUNTY OF	PNA00014	460.1000	PP
COOL SPRIN	ROWLAND, TOWN OF	PND02830	153.8900	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	154.3850	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	155.2050	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	462.9500	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	462.9750	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	463.0000	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	463.0250	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	463.0500	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	463.0750	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	463.1000	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	463.1250	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	463.1500	PF
COOL SPRIN	ROWLAND, TOWN OF	PND02830	463.1750	PF
DURHAM	DURHAM, COUNTY OF	PNR12357	154.1300	PF
DURHAM	DURHAM, COUNTY OF	PNR12357	154.3100	PF
ELIZABETH	ELIZABETH CITY, CITY OF	PND02831	154.0100	PF
ELIZABETH	ELIZABETH CITY, CITY OF	PND02831	154.2800	PF
ELIZABETH	ELIZABETH CITY, CITY OF	PND02831	154.3100	PF
ELIZABETH	ELIZABETH CITY, CITY OF	PND02831	154.3400	PF
ELIZABETH	ELIZABETH CITY, CITY OF	PND02831	154.4300	PF
ELM CITY	WILSON, COUNTY OF	PND02765	154.9800	PL
GASTONIA	GASTONIA, CITY OF	PND01293	154.1900	PF
GASTONIA	GASTONIA, CITY OF	PND01293	154.2350	PF
GLENN	ENO FIRE AND EMERGENCY SVCES	PND02832	154.3550	PF
GOLDSBORO	GOLDSBORO, CITY OF	PNR12121	45.1200	PL
GOLDSBORO	GOLDSBORO, CITY OF	PNR12121	155.8050	PL
GOLDSBORO	MC DOWELL, COUNTY OF	PNA00010	153.8000	PL
GREENSBORO	AMERICAN RED CROSS	PND02766	47.4200	PS
GREENSBORO	GREENSBORO, CITY OF	PND02761	866.1500	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	866.2625	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	866.4000	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	866.6500	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	866.7625	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	867.1500	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	867.2625	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	867.4375	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	867.7625	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	868.2625	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	868.5375	YF
GREENSBORO	GREENSBORO, CITY OF	PND02761	868.7625	YF
GREENSBORO	GREENSBORO, CITY OF	PND02762	851.0625	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	851.1375	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	851.8125	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	851.8625	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	851.9125	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	852.1125	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	852.1875	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	852.9375	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	853.0625	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	853.4875	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	854.2625	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	854.4375	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	854.4625	YP
GREENSBORO	GREENSBORO, CITY OF	PND02762	855.9625	GP
HIGH POINT	GREENSBORO, CITY OF	PND02761	866.1500	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	866.2625	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	866.4000	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	866.6500	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	866.7625	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	867.1500	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	867.2625	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	867.4375	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	867.7625	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	868.2625	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	868.5375	YF
HIGH POINT	GREENSBORO, CITY OF	PND02761	868.7625	YF
HIGH POINT	GREENSBORO, CITY OF	PND02762	855.9625	GP
HILLSBOROU	NEW HOPE FIRE DEPARTMENT	PND02833	154.3550	PF
HILLSBOROU	NEW HOPE FIRE DEPARTMENT	PND02833	154.4000	PF
KINGS MOUN	KINGS MOUNTAIN, CITY OF	PNR12724	153.4250	IW
KINGS MOUN	KINGS MOUNTAIN, CITY OF	PNR12724	153.4550	IW
KINGS MOUN	KINGS MOUNTAIN, CITY OF	PNR12724	153.6950	IW
KINGS MOUN	KINGS MOUNTAIN, CITY OF	PNR12724	158.2200	IW
KINGS MOUN	KINGS MOUNTAIN, CITY OF	PNR12724	158.2650	IW
MARION	MC DOWELL, COUNTY OF	PNA00010	860.9625	GP
MC LEANSVI	GREENSBORO, CITY OF	PND02761	866.1500	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	866.2625	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	866.4000	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	866.6500	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	866.7625	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	867.1500	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	867.2625	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	867.4375	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	867.7625	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	868.2625	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	868.5375	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02761	868.7625	YF
MC LEANSVI	GREENSBORO, CITY OF	PND02762	855.9625	GP
MOORESVILL	IREDELL, COUNTY OF	PNA00014	453.6500	PP
MOORESVILL	ROWLAND, TOWN OF	PND02830	153.8900	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	154.3850	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	155.1600	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	155.2050	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	155.2800	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	155.3400	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	463.0000	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	463.0250	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	463.0500	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	463.0750	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	463.1000	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	463.1250	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	463.1500	PF
MOORESVILL	ROWLAND, TOWN OF	PND02830	463.1750	PF
MORGANTON	BURKE, COUNTY OF	PND02730	155.1600	PS
MORGANTON	BURKE, COUNTY OF	PND02730	155.2800	PS
NEW BERN	CRAVEN, COUNTY OF	PNA00029	155.7150	PL
OXFORD	CROOKED CREEK VOLUN. FIRE DEP	PND02626	155.2200	PM
OXFORD	CROOKED CREEK VOLUN. FIRE DEP	PND02626	155.2800	PM
OXFORD	CROOKED CREEK VOLUN. FIRE DEP	PND02626	155.3400	PM
PINETOPS	PINETOPS, TOWN OF	PNR11633	154.8600	PP
PINETOPS	PINETOPS, TOWN OF	PNR11633	155.1900	PP
PINETOPS	PINETOPS, TOWN OF	PNR11633	155.7000	PP
PINETOPS	PINETOPS, TOWN OF	PNR11633	155.9700	PP
RALEIGH DU	RALEIGH DURHAM AIRPORT AUTH.	PND01170	903.7450	PL
RALEIGH DU	RALEIGH DURHAM AIRPORT AUTH.	PND01170	910.7500	PL
ROCK RIDGE	WILSON, COUNTY OF	PND02765	154.9800	PL
ROWLAND	ROWLAND, TOWN OF	PND02830	154.2650	PF
STANTONSBU	CRAVEN, COUNTY OF	PNA00029	154.6500	PP
STANTONSBU	CRAVEN, COUNTY OF	PNA00029	154.7550	PP
STANTONSBU	CRAVEN, COUNTY OF	PNA00029	155.5500	PP
STANTONSBU	CRAVEN, COUNTY OF	PNA00029	155.9700	PP
STANTONSBU	WILSON, COUNTY OF	PND02765	154.9800	PL
STATESVILL	ROWLAND, TOWN OF	PND02830	153.8900	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	154.0000	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	154.0100	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	154.0700	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	154.3850	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	155.1600	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	155.2050	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	155.2800	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	155.3400	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	462.9500	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	462.9750	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	463.0000	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	463.0250	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	463.0500	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	463.0750	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	463.1000	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	463.1250	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	463.1500	PF
STATESVILL	ROWLAND, TOWN OF	PND02830	463.1750	PF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	866.1500	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	866.2625	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	866.4000	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	866.6500	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	866.7625	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	867.1500	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	867.2625	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	867.4375	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	867.7625	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	868.2625	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	868.5375	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02761	868.7625	YF
SUMMERFIEL	GREENSBORO, CITY OF	PND02762	855.9625	GP
WILKESBORO	GOSHEN VFD	PND02625	154.2800	PF
WILKESBORO	GOSHEN VFD	PND02625	154.3700	PF
WILKESBORO	GOSHEN VFD	PND02625	154.4000	PF
WILSON	WILSON, COUNTY OF	PND02765	154.9800	PL

North Dakota

	BISMARCK, CITY OF	PNA00031	154.6500	PP
	BISMARCK, CITY OF	PNA00031	159.0900	PP
BARTHOLD	MINOT, CITY OF	PN363224	169.5250	IW

BELCOURT	TURTLE MOUNTAIN HEADSTART	PND02625	155.2200	PS
BISMARCK	BISMARCK, CITY OF	PNA00031	154.6500	PP
BISMARCK	BISMARCK, CITY OF	PNA00031	155.0700	PP
BISMARCK	BISMARCK, CITY OF	PNA00031	155.4750	PP
BISMARCK	BISMARCK, CITY OF	PNA00031	155.5950	PP
BOWBELLS	NORTH DAKOTA, STATE OF	PNA00019	158.9550	PL
COLUMBUS	BURKE, COUNTY OF	PNR10666	153.7400	PL
COLUMBUS	BURKE, COUNTY OF	PNR10666	154.0550	PL
COOPERSTOW	NORTH DAKOTA, STATE OF	PNA00019	158.9550	PL
DES LACS	MINOT, CITY OF	PN363224	169.5250	IW
DONNYBROOK	MINOT, CITY OF	PN363224	169.5250	IW
DUNSEITH	TURTLE MOUNTAIN HEADSTART	PND02625	155.2200	PS
FOXHOLM	MINOT, CITY OF	PN363224	169.5250	IW
MINOT	MINOT, CITY OF	PN363225	169.5250	IW
SAINT JOHN	TURTLE MOUNTAIN HEADSTART	PND02625	155.2200	PS

Nebraska

	ORCHARD, CITY OF	PNR12727	39.8200	PL
	ORCHARD, CITY OF	PNR12727	39.9000	PL
	ORCHARD, CITY OF	PNR12727	39.9800	PL
	SEWARD, CITY OF	PNA00028	465.0625	PP
	SYRACUSE, CITY OF	PND01945	453.2125	PL
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	456.0500	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	457.0500	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	462.9500	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	462.9750	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	463.0000	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	463.0250	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	463.0500	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	463.0750	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	463.1000	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	463.1250	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	463.1500	PS
ANGORA	REGIONAL WEST MECICAL CENTER	PNR11777	463.1750	PS
BEAVER CIT	BEAVER CITY, CITY OF	PND01702	460.0250	PP
BEAVER CIT	BEAVER CITY, CITY OF	PND01702	465.0250	PP
CENTER	KNOX, COUNTY OF	PNA00013	465.0250	PP
GRAND ISLA	HALL, COUNTY OF	PND01701	39.5000	PL
LINCOLN	NEBRASKA, STATE OF	PNR11769	155.0250	PL
ORCHARD	ORCHARD, CITY OF	PNR12727	39.8200	PL
ORCHARD	ORCHARD, CITY OF	PNR12727	39.9000	PL
ORCHARD	ORCHARD, CITY OF	PNR12727	39.9800	PL
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	451.0500	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	452.0500	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	462.9500	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	462.9750	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	463.0000	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	463.0250	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	463.0500	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	463.0750	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	463.1000	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	463.1250	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	463.1500	PS
SCOTTSBLUF	REGIONAL WEST MECICAL CENTER	PNR11777	463.1750	PS
SEWARD	SEWARD, CITY OF	PNA00028	39.6200	PP
SEWARD	SEWARD, CITY OF	PNA00028	39.7800	PP
SEWARD	SEWARD, CITY OF	PNA00028	39.8200	PP
SEWARD	SEWARD, CITY OF	PNA00028	39.9000	PP
SEWARD	SEWARD, CITY OF	PNA00028	39.9800	PP
SEWARD	SEWARD, COUNTY OF	PNA00012	453.3750	PL
SEWARD	SEWARD, COUNTY OF	PNA00012	458.3750	PL
WINNETOON	KNOX, COUNTY OF	PNA00013	39.8200	PP
WINNETOON	KNOX, COUNTY OF	PNA00013	39.9000	PP
WINNETOON	KNOX, COUNTY OF	PNA00013	39.9800	PP
WINNETOON	KNOX, COUNTY OF	PNA00013	460.0250	PP

New Hampshire

GOFFSTOWN	GOFFSTOWN, TOWN OF	PND01599	158.8800	PL
LANCASTER	LANCASTER, CITY OF	PND02570	154.4450	PF
NEWPORT	NEWPORT, TOWN OF	PNA00028	155.5500	PP
NEWPORT	NEWPORT, TOWN OF	PNA00028	156.1500	PP
RINDGE	RINDGE, CITY OF	PNA00020	153.8000	PL
RINDGE	RINDGE, CITY OF	PNA00020	158.7450	PL

New Jersey

	LIFE AMBULANCE SERVICE INC	PND02636	155.3400	PM
ALPHA	ALPHA, BOROUGH OF	PND02787	151.0850	PH
AVENEL	GEORGE DAPPER INC	PND02822	47.6600	PS
BERGENFIEL	BERGENFIELD, BOROUGH OF	PNR12233	46.0800	PF
BERGENFIEL	BERGENFIELD, BOROUGH OF	PNR12233	153.8300	PF
BERGENFIEL	BERGENFIELD, BOROUGH OF	PNR12233	154.1600	PF
BERGENFIEL	BERGENFIELD, BOROUGH OF	PNR12233	154.2200	PF
CAPE MAY	DELAWARE RIVER AND BAY AUTH.	PND02688	154.8600	PP
CAPE MAY	DELAWARE RIVER AND BAY AUTH.	PND02688	155.1300	PP
CAPE MAY	DELAWARE RIVER AND BAY AUTH.	PND02688	155.3100	PP
CAPE MAY C	CAPE MAY, COUNTY OF	PND02764	453.2250	PL
CAPE MAY C	CAPE MAY, COUNTY OF	PND02764	453.8250	PL
CAPE MAY C	CAPE MAY, COUNTY OF	PND02764	458.2250	PL
CAPE MAY C	CAPE MAY, COUNTY OF	PND02764	458.8250	PL
CHESTER	WASHINGTON, TOWNSHIP OF	PND02570	154.3250	PF
CLARKSBORO	GLOUCESTER, COUNTY OF	PNR12843	855.9625	GP
CLAYTON	GLOUCESTER, COUNTY OF	PNR12843	852.6125	GP
CLAYTON	GLOUCESTER, COUNTY OF	PNR12843	855.9625	GP
EMERSON	EMERSON, BORO OF	PNA00015	159.2100	PP
FORKED RIV	LACEY, TOWNSHIP OF	PNA00023	39.9000	PL
FRANKFORD	LACEY, TOWNSHIP OF	PNA00023	154.6800	PP
FRANKFORD	LACEY, TOWNSHIP OF	PNA00023	155.4750	PP
HALEDON	LACEY, TOWNSHIP OF	PNA00023	153.8000	PL
HALEDON	LACEY, TOWNSHIP OF	PNA00023	155.7150	PL
HALEDON	LACEY, TOWNSHIP OF	PNA00023	156.0150	PL
HAMILTON	HAMILTON, TOWNSHIP OF	PNR12078	154.6800	PP
HAMILTON	HAMILTON, TOWNSHIP OF	PNR12078	155.4750	PP
HAMILTON	HAMILTON, TOWNSHIP OF	PNR12078	460.4500	PP
HAMILTON	HAMILTON, TOWNSHIP OF	PNR12078	465.0750	PP
HAMILTON	HAMILTON, TOWNSHIP OF	PNR12078	465.4500	PP
ISELIN	GEORGE DAPPER INC	PND02822	47.6600	PS
LONG VALLE	WASHINGTON, TOWNSHIP OF	PND02570	153.7700	PF
LONG VALLE	WASHINGTON, TOWNSHIP OF	PND02570	153.9500	PF
LONG VALLE	WASHINGTON, TOWNSHIP OF	PND02570	154.0700	PF
LONG VALLE	WASHINGTON, TOWNSHIP OF	PND02570	154.3250	PF
LONG VALLE	WASHINGTON, TOWNSHIP OF	PNR10532	470.3875	PL
LONG VALLE	WASHINGTON, TOWNSHIP OF	PNR10532	473.3875	PL
MARLBORO	MARLBORO, TOWNSHIP OF	PNR11704	39.4600	PP
MARLBORO	MARLBORO, TOWNSHIP OF	PNR11704	154.6800	PP
MARLBORO	MARLBORO, TOWNSHIP OF	PNR11704	154.7400	PP
MARLBORO	MARLBORO, TOWNSHIP OF	PNR11704	154.8750	PP
MARLBORO	MARLBORO, TOWNSHIP OF	PNR11704	155.4750	PP
MARLBORO	MARLBORO, TOWNSHIP OF	PNR11704	158.8800	PP
NEWARK	NEWARK, CITY OF	PNR10682	473.5125	PF
OXFORD	POLLUTION CTL FINANCING AUTH OF	PNR12543	155.0250	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	506.4875	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	507.3625	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	507.4625	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	508.2125	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	508.3625	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	508.4625	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	509.4875	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	510.3625	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	510.4625	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	511.2125	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	511.3625	PL
PRINCETON	PRINCETON UNIVERSITY	PNA00016	511.4625	PL
SEA GIRT	SEA GIRT, BOROUGH OF	PNA00021	470.5125	PP
SEA GIRT	SEA GIRT, BOROUGH OF	PNA00021	473.5125	PP
SEASIDE PA	TRI BORO FIRST AID SQUAD	PND02637	155.3250	PM
SOMERVILLE	SOMERVILLE, BOROUGH OF	PND02583	155.9250	PL
TRENTON	GEORGE DAPPER INC	PND02822	47.6600	PS

New Mexico

	FARMINGTON, CITY OF	PND01683	451.9625	IS
	FARMINGTON, CITY OF	PND01683	456.9625	IS
ALBUQUERQU	ALBUQUERQUE, CITY OF	PNA00015	855.7375	GP
ALBUQUERQU	ALBUQUERQUE, CITY OF	PNA00015	856.7375	GP
ALBUQUERQU	ALBUQUERQUE, CITY OF	PNA00015	857.7375	GP
ALBUQUERQU	ALBUQUERQUE, CITY OF	PNA00015	859.7375	GP
ALBUQUERQU	ALBUQUERQUE, CITY OF	PNA00015	860.7375	GP
APACHE CRE	NEW MEXICO, STATE OF	PNA00031	453.9500	PL
APACHE CRE	NEW MEXICO, STATE OF	PND01834	44.8000	PO
BAYARD	BAYARD, CITY OF	PNR12130	154.2350	PF
BAYARD	BAYARD, CITY OF	PNR12130	154.3100	PF
RED RIVER	RED RIVER, TOWN OF	PND02571	154.2350	PF
SANTA FE	NEW MEXICO, STATE OF	PNA00016	453.9000	PL
SANTA FE	NEW MEXICO, STATE OF	PNA00016	458.9000	PL

Nevada

FERNLEY	FERNLEY, TOWN OF	PND01683	451.9500	IS
FERNLEY	FERNLEY, TOWN OF	PND01683	456.9500	IS
LAS VEGAS	NEVADA, STATE OF	PND02580	151.2950	PO
LAS VEGAS	NEVADA, STATE OF	PND02580	151.3400	PO
LAS VEGAS	NEVADA, STATE OF	PND02580	159.3750	PO
LAUGHLIN	MOHAVE COUNTY FIRE OFFICERS	PND02570	154.3550	PF
LAUGHLIN	NEVADA, STATE OF	PND02581	151.2950	PO
LAUGHLIN	NEVADA, STATE OF	PND02581	151.3400	PO
LAUGHLIN	NEVADA, STATE OF	PND02581	159.3750	PO
RENO	CITIFARE	PND01704	453.5250	PL
RENO	CITIFARE	PND01704	453.8250	PL
RENO	CITIFARE	PND01704	458.5250	PL
RENO	CITIFARE	PND01704	458.8250	PL
RENO	RENO, CITY OF	PNA00014	453.4000	PP
RENO	RENO, CITY OF	PNA00020	453.5500	PL
WINNEMUCCA	HUMBOLDT CO. COMMUNICATIONS	PND02831	152.0075	PS

New York

	ALBANY, COUNTY OF	PNR11633	39.0600	PL
	ALBANY, COUNTY OF	PNR12356	39.0600	PL
	BRIGHTON FIRE DISTRICT	PNA00030	154.6500	PP
	BRIGHTON FIRE DISTRICT	PNA00030	154.7400	PP
	BRIGHTON FIRE DISTRICT	PNA00030	154.8600	PP
	BRIGHTON FIRE DISTRICT	PNA00030	155.3700	PP
	BRIGHTON FIRE DISTRICT	PNA00030	155.4150	PP
	BRIGHTON FIRE DISTRICT	PNA00030	155.6400	PP
	BRIGHTON FIRE DISTRICT	PNA00030	155.6850	PP
	COBLESKILL, VILLAGE OF	PND02706	451.4875	IW
	COHOCTON, VILLAGE OF	PND01602	453.6125	PL

	COHOCTON, VILLAGE OF	PND01602	458.6125	PL
	ERIE, COUNTY OF	PN213957	45.8800	PF
	ERIE, COUNTY OF	PN213957	46.2000	PF
	ERIE, COUNTY OF	PN213957	46.2200	PF
	ERIE, COUNTY OF	PN213957	46.2400	PF
	ERIE, COUNTY OF	PN213957	46.2600	PF
	ERIE, COUNTY OF	PN213957	46.2800	PF
	ERIE, COUNTY OF	PN213957	46.3000	PF
	ERIE, COUNTY OF	PN213957	46.3200	PF
	ERIE, COUNTY OF	PN213957	46.3800	PF
	ERIE, COUNTY OF	PN213957	154.2800	PF
	ERIE, COUNTY OF	PN213957	154.2950	PF
	ERIE, COUNTY OF	PN213957	154.3700	PF
	LONG BEACH MEDICAL CENTER	PNR12363	155.3400	PS
	MILFORD, VILLAGE OF	PND01704	453.8625	PL
	MILFORD, VILLAGE OF	PND01704	458.8625	PL
	NEW YORK, CITY OF	PND01700	473.7625	PP
	NEW YORK, CITY OF	PND01700	474.0125	PP
	NIAGARA COUNTY FIRE	PND02831	453.8750	PF
	ONEIDA, COUNTY OF	PND01526	155.3250	PM
	UTICA MUNICIPAL HOUSING AUTH.	PND01276	453.4125	PL
	UTICA MUNICIPAL HOUSING AUTH.	PND01276	453.8125	PL
	UTICA MUNICIPAL HOUSING AUTH.	PND01276	458.4125	PL
	UTICA MUNICIPAL HOUSING AUTH.	PND01276	458.8125	PL
ALLEGANY	ALLEGANY, VILLAGE OF	PNR12353	39.1400	PP
ALLEGANY	ALLEGANY, VILLAGE OF	PNR12353	154.8600	PP
ALLEGANY	ALLEGANY, VILLAGE OF	PNR12353	155.4750	PP
AMSTERDAM	ENLARGED AMSTERDAM CITY SCH.	PNR11876	155.2350	PS
ANDOVER	ANDOVER, TOWN OF	PNA00028	39.5800	PL
BRIDGEWATE	ONEIDA, COUNTY OF	PND01526	155.3250	PM
BROCTON	PORTLAND, TOWN OF	PND02786	159.1200	PH
CENTER MOR	CENTER MORICHES FIRE DISTRICT	PNR12842	46.3000	PF
CENTER MOR	CENTER MORICHES FIRE DISTRICT	PNR12842	46.3600	PF
CENTER MOR	CENTER MORICHES FIRE DISTRICT	PNR12842	46.3800	PF
CENTER MOR	CENTER MORICHES FIRE DISTRICT	PNR12842	46.4000	PF
CENTER MOR	CENTER MORICHES FIRE DISTRICT	PNR12842	46.4600	PF
COPAKE	COPAKE, TOWN OF	PNA00025	155.8650	PL
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	462.9500	PM
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	462.9750	PM
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	463.0000	PM
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	463.0250	PM
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	463.0500	PM
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	463.0750	PM
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	463.1000	PM
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	463.1250	PM
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	463.1500	PM
GENEVA	GENEVA GENERAL HOSPITAL	PND02832	463.1750	PM
GREENWICH	GREENWICH CENTRAL SCHOOL	PNR12543	155.1600	PS
HARRISON	SAINT VINCENT HOSP & MED CNT	PNR11678	157.4500	PS
KENMORE	TONAWANDA, TOWN OF	PNR12814	463.7750	IB
KIRKLAND	ONEIDA, COUNTY OF	PND01526	155.3250	PM
LANCASTER	LANCASTER VOLUN. AMBULANCE	PND02833	155.1600	PS
LANCASTER	LANCASTER VOLUN. AMBULANCE	PND02833	155.2050	PS
LOCKPORT	LOCKPORT, CITY OF	PNA00026	155.1450	PL
LONG BEACH	LONG BEACH MEDICAL CENTER	PNR12363	155.3400	PS
LONG BEACH	LONG BEACH MEDICAL CENTER	PNR12363	163.2500	PS
MARCELLUS	BRIGHTON FIRE DISTRICT	PNA00030	154.8600	PP
MONSEY	MONSEY FIRE DISTRICT	PND02729	46.0800	PF
MONSEY	MONSEY FIRE DISTRICT	PND02729	46.1800	PF
MONSEY	MONSEY FIRE DISTRICT	PND02729	46.3000	PF
MONSEY	MONSEY FIRE DISTRICT	PND02729	46.3200	PF
MONSEY	MONSEY FIRE DISTRICT	PND02729	46.3600	PF
MONSEY	MONSEY FIRE DISTRICT	PND02729	46.4800	PF
NEW YORK	NEW YORK, CITY OF	PND01700	470.7625	PP
NEW YORK	NEW YORK, CITY OF	PND01700	471.0125	PP
NIAGARA FA	TOWN OF NIAGARA ACTIVE HOSE	PND02637	46.1600	PF
NORTH TONA	TONAWANDA, CITY OF	PND02728	46.4200	PF
OTISCO	BRIGHTON FIRE DISTRICT	PNA00030	155.3700	PP
OTISCO	BRIGHTON FIRE DISTRICT	PNA00030	155.6400	PP
PLAINVIEW	PLAINVIEW, CITY OF	PND01577	477.1625	PF
PLAINVIEW	PLAINVIEW, CITY OF	PND01577	480.1625	PF
POMPEY	BRIGHTON FIRE DISTRICT	PNA00030	154.7400	PP
POMPEY	BRIGHTON FIRE DISTRICT	PNA00030	154.8600	PP
POMPEY	BRIGHTON FIRE DISTRICT	PNA00030	155.4150	PP
POMPEY	BRIGHTON FIRE DISTRICT	PNA00030	155.6850	PP
PORTLAND	PORTLAND, TOWN OF	PND02786	159.1200	PH
ROCHESTER	BRIGHTON FIRE DISTRICT	PNA00030	153.9950	PL
STEUBEN	ONEIDA, COUNTY OF	PND01526	155.3250	PM
SYRACUSE	BRIGHTON FIRE DISTRICT	PNA00030	154.7400	PP
SYRACUSE	BRIGHTON FIRE DISTRICT	PNA00030	154.8600	PP
SYRACUSE	BRIGHTON FIRE DISTRICT	PNA00030	155.3700	PP
SYRACUSE	BRIGHTON FIRE DISTRICT	PNA00030	155.4150	PP
SYRACUSE	BRIGHTON FIRE DISTRICT	PNA00030	155.6400	PP
SYRACUSE	BRIGHTON FIRE DISTRICT	PNA00030	155.6850	PP
TONAWANDA	TONAWANDA, CITY OF	PND02728	46.4200	PF
TONAWANDA	TONAWANDA, TOWN OF	PNR12814	463.7750	IB
TRUMANSBUR	TOMPKINS, COUNTY OF	PNR12059	46.1200	PF
WARWICK	WARWICK, VILLAGE OF	PND01706	46.5600	PL
WARWICK	WARWICK, VILLAGE OF	PND01706	453.8625	PL
WARWICK	WARWICK, VILLAGE OF	PND01706	458.8625	PL

Ohio

	CADIZ, CITY OF	PND02626	154.1300	PF
	LIBERTY, TOWNSHIP OF	PND02570	153.8900	PF
	LIBERTY, TOWNSHIP OF	PND02570	154.1600	PF
	LIBERTY, TOWNSHIP OF	PND02570	154.2800	PF
	LORAIN, CITY OF	PN209082	153.8450	PP
	LORAIN, CITY OF	PN209082	154.8750	PP
	LORAIN, CITY OF	PN209082	155.2500	PP
	LORAIN, CITY OF	PN209082	155.3700	PP
	LORAIN, CITY OF	PN209082	155.9700	PP
	LORAIN, CITY OF	PN209082	460.1125	PP
	LORAIN, CITY OF	PN209082	460.4875	PP
	LORAIN, CITY OF	PN209082	465.1125	PP
	LORAIN, CITY OF	PN209082	465.4875	PP
	OHIO, STATE OF	PNA00014	458.6625	PL
	SHAKER HEIGHTS, CITY OF	PNR11634	39.3400	PP
	SHAKER HEIGHTS, CITY OF	PNR11634	39.5800	PP
	SHAKER HEIGHTS, CITY OF	PNR11634	39.6000	PP
	SHAKER HEIGHTS, CITY OF	PNR11634	39.7400	PP
	SHAKER HEIGHTS, CITY OF	PNR11634	39.8000	PP
	SHAKER HEIGHTS, CITY OF	PNR11634	155.3700	PP
	YOUNGSTOWN, CITY OF	PNA00017	458.6625	PL
ADA	LIBERTY, TOWNSHIP OF	PND02570	154.1600	PF
ADA	LIBERTY, TOWNSHIP OF	PND02570	154.2800	PF
ADA	LIBERTY, TOWNSHIP OF	PND02570	460.6000	PF
AKRON	AKRON, CITY OF	PND01138	866.0375	YF
AKRON	AKRON, CITY OF	PND01138	866.2875	YF
AKRON	AKRON, CITY OF	PND01138	866.5625	YF
AKRON	PREBLE, COUNTY OF	PNA00018	453.8000	PL
AKRON	PREBLE, COUNTY OF	PNA00018	453.9750	PL
AKRON	PREBLE, COUNTY OF	PNA00018	458.9750	PL
AMHERST	AMHERST, CITY OF	PND02830	154.1750	PF
AMHERST	AMHERST, CITY OF	PND02830	154.2800	PF
AMHERST	AMHERST, CITY OF	PND02830	154.3700	PF
AMHERST	LAKELAND CORP	PND00738	152.0075	PM
AMHERST	LAKELAND CORP	PND00738	155.2200	PM
AMHERST	LAKELAND CORP	PND00738	155.2800	PM
AMHERST	LAKELAND CORP	PND00738	155.3400	PM
AMHERST	LAKELAND CORP	PND00738	462.9500	PM
AMHERST	LAKELAND CORP	PND00738	463.0000	PM
AMHERST	LAKELAND CORP	PND00738	463.0250	PM
AMHERST	LAKELAND CORP	PND00738	463.0500	PM
AMHERST	LAKELAND CORP	PND00738	463.0750	PM
AMHERST	LAKELAND CORP	PND00738	463.1000	PM
AMHERST	LAKELAND CORP	PND00738	463.1250	PM
AMHERST	LAKELAND CORP	PND00738	463.1500	PM
AMHERST	LAKELAND CORP	PND00738	463.1750	PM
ASHLAND	ASHLAND, COUNTY OF	PND02627	150.7900	PF
ASHLAND	ASHLAND, COUNTY OF	PND02627	151.2200	PF
ASHLAND	ASHLAND, COUNTY OF	PND02627	154.0100	PF
ASHLAND	ASHLAND, COUNTY OF	PND02627	154.0700	PF
ASHLAND	ASHLAND, COUNTY OF	PND02627	154.2800	PF
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	856.4375	YP
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	856.7375	YP
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	857.4375	YP
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	857.7375	YP
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	858.4375	YP
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	858.7375	YP
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	859.4375	YP
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	859.7375	YP
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	860.4375	YP
BRADFORD	KENWOOD BAPTIST CHURCH	PND02578	860.7375	YP
BROOKLYN H	BROOKLYN HEIGHTS, VILLAGE OF	PNR12359	39.5800	PP
BROOKLYN H	BROOKLYN HEIGHTS, VILLAGE OF	PNR12359	155.3700	PP
BROOKLYN H	BROOKLYN HEIGHTS, VILLAGE OF	PNR12359	158.9550	PP
BROOKLYN H	BROOKLYN HEIGHTS, VILLAGE OF	PNR12359	159.3000	PP
BRUNSWICK	YOUNGSTOWN, CITY OF	PNA00017	46.5200	PL
CAMBRIDGE	CAMBRIDGE, CITY OF	PND02629	153.6650	IW
CARROLLTON	GREENVIEW LOCAL SCHOOL DIST.	PND02581	453.4500	PH
CARROLLTON	GREENVIEW LOCAL SCHOOL DIST.	PND02581	458.4500	PH
CIRCLEVILL	FAYETTE, COUNTY OF	PND02690	866.0375	YF
CIRCLEVILL	FAYETTE, COUNTY OF	PND02690	866.3125	YF
CIRCLEVILL	FAYETTE, COUNTY OF	PND02690	866.6500	YF
CIRCLEVILL	FAYETTE, COUNTY OF	PND02690	867.0625	YF
CIRCLEVILL	FAYETTE, COUNTY OF	PND02690	867.6250	YF
CLAY CENTE	OTTAWA, COUNTY OF	PND00040	154.1000	PL
COLUMBUS	PRAIRIE, TOWNSHIP OF	PNA00012	155.7750	PL
CORNING	MONROE, TOWNSHIP OF	PND02766	150.7900	PH
CORNING	MONROE, TOWNSHIP OF	PND02766	156.1650	PH
CUYAHOGA F	FAYETTE, COUNTY OF	PND02690	866.7250	YF
CUYAHOGA F	FAYETTE, COUNTY OF	PND02690	867.2250	YF
CUYAHOGA F	FAYETTE, COUNTY OF	PND02690	867.7250	YF
DAYTON	ST ELIZABETH MEDICAL CENTER	PND01699	155.2800	PM
DAYTON	ST ELIZABETH MEDICAL CENTER	PND01699	155.3400	PM
DELAWARE	PRAIRIE, TOWNSHIP OF	PNA00012	45.2200	PP
DELAWARE	PRAIRIE, TOWNSHIP OF	PNA00012	460.1750	PP
DELAWARE	PRAIRIE, TOWNSHIP OF	PNA00012	460.2750	PP
DELAWARE	PRAIRIE, TOWNSHIP OF	PNA00012	465.1750	PP
DELAWARE	PRAIRIE, TOWNSHIP OF	PNA00012	465.2750	PP
DELAWARE	PRAIRIE, TOWNSHIP OF	PNA00012	465.3375	PP
EATON	PREBLE, COUNTY OF	PNA00018	155.8050	PL

ELYRIA	NORTH CENTRAL EMERGENCY MED	PND02737	155.1750	PM
FELICITY	SPEDUTO, LOUIS M	PND02686	159.1200	PH
GRATIOT	NATIONAL TRAIL FIRE DEPT INC	PNR12784	33.8600	PF
GRATIOT	NATIONAL TRAIL FIRE DEPT INC	PNR12784	33.9800	PF
GREENVILLE	YOUNGSTOWN, CITY OF	PNA00017	154.8750	PP
GREENVILLE	YOUNGSTOWN, CITY OF	PNA00017	155.7300	PP
HAYESVILLE	ASHLAND, COUNTY OF	PND02627	151.2200	PF
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	39.5800	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	151.3400	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	155.3700	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	155.7750	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	158.9550	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	159.3000	PP
JACKSON	PREBLE, COUNTY OF	PNA00018	44.7400	PP
JACKSON	PREBLE, COUNTY OF	PNA00018	45.0200	PP
JACKSON	PREBLE, COUNTY OF	PNA00018	45.1000	PP
JAMESTOWN	GREENVIEW LOCAL SCHOOL DIST.	PND02581	155.2650	PS
JEFFERSON	ASHTABULA, COUNTY OF	PNR12059	155.8050	PL
JEROMESVIL	ASHLAND, COUNTY OF	PND02627	151.2200	PF
KENTON	LIBERTY, TOWNSHIP OF	PND02570	465.6000	PF
LORAIN	LAKELAND CORP	PND00738	155.2800	PM
LORAIN	LAKELAND CORP	PND00738	155.3400	PM
LORAIN	LAKELAND CORP	PND00738	463.0000	PM
LORAIN	LAKELAND CORP	PND00738	463.0250	PM
LORAIN	LAKELAND CORP	PND00738	463.0500	PM
LORAIN	LAKELAND CORP	PND00738	463.0750	PM
LORAIN	LAKELAND CORP	PND00738	463.1250	PM
LORAIN	LAKELAND CORP	PND00738	463.1500	PM
LORAIN	LAKELAND CORP	PND00738	463.1750	PM
LORAIN	LORAIN, CITY OF	PN209082	154.8750	PP
LORAIN	LORAIN, CITY OF	PN209082	155.2500	PP
LORAIN	LORAIN, CITY OF	PN209082	155.3700	PP
LORAIN	LORAIN, CITY OF	PND01029	173.2625	IW
LOUDONVILL	ASHLAND, COUNTY OF	PND02627	151.2200	PF
MARBLEHEAD	OTTAWA, COUNTY OF	PND00040	154.1000	PL
MARYSVILLE	NORTH BALTIMORE, VILLAGE OF	PNA00027	151.2500	PL
MARYSVILLE	NORTH BALTIMORE, VILLAGE OF	PNA00027	153.8750	PL
MEDINA	MEDINA, COUNTY OF	PND02764	453.2250	PL
MEDINA	MEDINA, COUNTY OF	PND02764	458.2250	PL
MIDDLEBURG	MIDDLEBURG HEIGHTS, CITY OF	PND02577	154.7000	PP
MIDDLEBURG	MIDDLEBURG HEIGHTS, CITY OF	PND02577	155.5650	PP
MIFFLIN	ASHLAND, COUNTY OF	PND02627	151.2200	PF
MILAN	NORTH CENTRAL EMERGENCY MED	PND02737	155.1750	PM
MILFORD	MIAMI TOWNSHIP FIRE & EMS	PND02728	153.8300	PF
MILFORD	MIAMI TOWNSHIP FIRE & EMS	PND02728	154.0100	PF
MILFORD	MIAMI TOWNSHIP FIRE & EMS	PND02728	154.2800	PF
MILFORD	MIAMI, TOWNSHIP OF	PND01526	155.4000	PM
NANKIN	ASHLAND, COUNTY OF	PND02627	151.2200	PF
NEWARK	NATIONAL TRAIL FIRE DEPT INC	PNR12784	33.8600	PF
NEWARK	NATIONAL TRAIL FIRE DEPT INC	PNR12784	33.9800	PF
NORTH BALT	NORTH BALTIMORE, VILLAGE OF	PNA00027	155.3700	PP
NORTH BALT	NORTH BALTIMORE, VILLAGE OF	PNA00027	159.0900	PP
NORWALK	STANSBERY, SCOTT	PND02547	150.7750	PM
NORWALK	STANSBERY, SCOTT	PND02547	155.3250	PM
NOVA	ASHLAND, COUNTY OF	PND02627	151.2200	PF
OAK HARBOR	OTTAWA, COUNTY OF	PND00040	154.1000	PL
OUTVILLE	HARRISON, TOWNSHIP OF	PNA00011	453.7750	PL
OUTVILLE	HARRISON, TOWNSHIP OF	PNA00011	458.7750	PL
PERRYSVILL	ASHLAND, COUNTY OF	PND02627	151.2200	PF
POLK	ASHLAND, COUNTY OF	PND02627	151.2200	PF
PORT CLINT	OTTAWA, COUNTY OF	PND00040	154.1000	PL
RICHWOOD	NORTH BALTIMORE, VILLAGE OF	PNA00027	151.2500	PL
SAVANNAH	ASHLAND, COUNTY OF	PND02627	151.2200	PF
SHAKER HEI	SHAKER HEIGHTS, CITY OF	PNR11634	39.5800	PP
SHAKER HEI	SHAKER HEIGHTS, CITY OF	PNR11634	39.6000	PP
SHAKER HEI	SHAKER HEIGHTS, CITY OF	PNR11634	39.8000	PP
SHAKER HEI	SHAKER HEIGHTS, CITY OF	PNR11634	155.3700	PP
SHELBY	SHARON, TOWNSHIP OF	PND02731	151.0100	PH
SOLON	SOLON, CITY OF	PND02572	45.8800	PF
SOLON	SOLON, CITY OF	PND02572	46.4600	PF
SOLON	SOLON, CITY OF	PND02572	46.5000	PF
SULLIVAN	ASHLAND, COUNTY OF	PND02627	151.2200	PF
TALLMADGE	PREBLE, COUNTY OF	PNA00018	453.8000	PL
TALLMADGE	PREBLE, COUNTY OF	PNA00018	453.9750	PL
TALLMADGE	PREBLE, COUNTY OF	PNA00018	458.8000	PL
TALLMADGE	PREBLE, COUNTY OF	PNA00018	458.9750	PL
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	856.4375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	856.7375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	857.4375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	857.7375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	858.4375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	858.7375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	859.4375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	859.7375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	860.4375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	860.7375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	856.4375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	856.7375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	857.4375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	857.7375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	858.4375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	858.7375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	859.4375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	859.7375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	860.4375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	860.7375	YP
WASHINGTON	FAYETTE, COUNTY OF	PND02690	866.2000	YF
WASHINGTON	FAYETTE, COUNTY OF	PND02690	866.7500	YF
WASHINGTON	FAYETTE, COUNTY OF	PND02690	867.4500	YF
WASHINGTON	FAYETTE, COUNTY OF	PND02690	868.1375	YF
WASHINGTON	FAYETTE, COUNTY OF	PND02690	868.6875	YF
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	856.4375	YP
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	856.7375	YP
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	857.4375	YP
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	857.7375	YP
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	858.4375	YP
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	858.7375	YP
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	859.4375	YP
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	859.7375	YP
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	860.4375	YP
WEST MILTO	KENWOOD BAPTIST CHURCH	PND02578	860.7375	YP
YOUNGSTOWN	YOUNGSTOWN, CITY OF	PNA00017	173.3625	PL

Oklahoma

	GARFIELD, COUNTY OF	PNR12544	153.9950	PL
	GARFIELD, COUNTY OF	PNR12544	158.7450	PL
	SPAVINAW, CITY OF	PNR11831	154.3850	PF
ATOKA	ATOKA, CITY OF	PND02729	154.4450	PF
CLEVELAND	CLEVELAND, CITY OF	PND02708	47.6200	PS
CLINTON	CLINTON, CITY OF	PND02728	153.7700	PF
CLINTON	CLINTON, CITY OF	PND02728	154.4300	PF
CRESCENT	CRESCENT, CITY OF	PNA00025	155.4900	PP
CRESCENT	CRESCENT, CITY OF	PNA00025	155.6550	PP
CRESCENT	CRESCENT, CITY OF	PNA00025	155.6700	PP
GARBER	GARFIELD, COUNTY OF	PNR12544	158.7450	PL
HAWORTH	PAULS VALLEY GENERAL HOSPITAL	PND02730	151.0700	PF
HAWORTH	PAULS VALLEY GENERAL HOSPITAL	PND02730	154.0700	PF
LAMONT	GARFIELD, COUNTY OF	PNR12544	158.7450	PL
LAWTON	CLEVELAND, COUNTY OF	PND02583	453.9750	PL
LAWTON	CLEVELAND, COUNTY OF	PND02583	458.9750	PL
LAWTON	FLOWER MOUND VOLUNTEER FIR	PND02832	154.3250	PF
NORMAN	CLEVELAND, COUNTY OF	PND02583	151.4750	PL
NORMAN	CLEVELAND, COUNTY OF	PND02583	159.3000	PL
PAULS VALL	PAULS VALLEY GENERAL HOSPITAL	PND02730	155.4000	PM
WANN	WANN VOLUNTER FIRE DEPARTMENT	PND02581	155.7450	PF

Oregon

BAKER CITY	OREGON, STATE OF	PNA00021	155.9100	PP
BAKER CITY	OREGON, STATE OF	PNA00021	159.0300	PP
FAIRVIEW	FAIRVIEW, CITY OF	PNR11963	46.5600	PL
GOLD BEACH	CURRY, COUNTY OF	PNR12543	153.9200	PL
HALFWAY	OREGON, STATE OF	PNA00021	155.9100	PP
LEBANON	LEBANON, CITY OF	PNA00025	460.0250	PP
LEBANON	LEBANON, CITY OF	PNA00025	465.0250	PP
LEBANON	LEBANON, CITY OF	PND02582	153.8450	PL
LEBANON	LEBANON, CITY OF	PND02582	153.9350	PL
LIME	OREGON, STATE OF	PNA00021	155.9100	PP
UNION	OREGON, STATE OF	PNA00021	155.9100	PP

Pennsylvania

	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP
	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
	ALLEGHENY, COUNTY OF	PNR12235	856.2125	YP
	ALLEGHENY, COUNTY OF	PNR12235	856.4875	YP
	ALLEGHENY, COUNTY OF	PNR12235	857.2125	YP
	ALLEGHENY, COUNTY OF	PNR12235	857.4875	YP
	ALLEGHENY, COUNTY OF	PNR12235	858.2125	YP
	ALLEGHENY, COUNTY OF	PNR12235	858.4875	YP
	ALLEGHENY, COUNTY OF	PNR12235	859.2125	YP
	ALLEGHENY, COUNTY OF	PNR12235	859.4875	YP
	ALLEGHENY, COUNTY OF	PNR12235	860.2125	YP
	ALLEGHENY, COUNTY OF	PNR12235	860.4875	YP
	BERKS, COUNTY OF	PNR12844	155.2500	PP
	BLUE RIDGE HOOK & LADDER FIRE	PND02807	453.2875	PF
	BLUE RIDGE HOOK & LADDER FIRE	PND02807	458.2875	PF
	DERRY, TOWNSHIP OF	PNR12543	37.1000	PL
	DERRY, TOWNSHIP OF	PNR12543	37.1800	PL
	DERRY, TOWNSHIP OF	PNR12543	37.2600	PL
	DU BOIS, CITY OF	PNA00023	453.1000	PL
	LACKAWANNA, COUNTY OF	PND02765	158.8350	PL
	LACKAWANNA, COUNTY OF	PND02765	453.3750	PL
	LACKAWANNA, COUNTY OF	PND02765	453.7000	PL
	LACKAWANNA, COUNTY OF	PND02765	453.9875	PL
	LACKAWANNA, COUNTY OF	PND02765	458.3750	PL
	LACKAWANNA, COUNTY OF	PND02765	458.7000	PL
	LACKAWANNA, COUNTY OF	PND02765	458.9875	PL
	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.1600	PS

	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2650	PS	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2800	PS	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.3400	PS	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
	NESQUEHONING, BOROUGH OF	PND02730	153.8300	PF	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
	PENNSYLVANIA, COMMONWEALTH	PNA00012	453.2875	PL	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
	PENNSYLVANIA, COMMONWEALTH	PNA00012	453.3625	PL	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
	PENNSYLVANIA, COMMONWEALTH	PNA00012	458.2875	PL	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
	SUSQUEHANNA TOWNSHIP E M A	PND02790	33.1600	PS	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
	WASHINGTON, TOWNSHIP OF	PNA00016	155.9400	PL	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
	WEST MEAD, TOWNSHIP OF	PND00622	153.9800	PP	GLASSPORT	GLASSPORT CITIZENS HOSE CO NO 1	PND02628	33.8000	PF
	WESTERN SALISBURY FIRE CO	PND02546	153.8300	PF	GLASSPORT	MC KEESPORT, CITY OF	PND02688	155.7600	PL
	WESTERN SALISBURY FIRE CO	PND02546	153.9500	PF	GREENSBURG	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.1600	PS
ABINGTON	MONTGOMERY, COUNTY OF	PN692475	854.9625	YP	GREENSBURG	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2650	PS
ALLENTOWN	ALLENTOWN, CITY OF	PNA00029	154.7700	PP	GREENSBURG	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2800	PS
ALLENTOWN	ALLENTOWN, CITY OF	PNA00029	154.8900	PP	GREENSBURG	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.3400	PS
ALLENTOWN	ALLENTOWN, CITY OF	PNA00029	158.7900	PP	HAINES TOW	UNION, COUNTY OF	PND02830	155.3850	PM
ALLENTOWN	ALLENTOWN, CITY OF	PNA00029	159.0900	PP	HAINES TOW	UNION, COUNTY OF	PND02830	458.0250	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	855.2125	YP	HAINES TOW	UNION, COUNTY OF	PND02830	458.0750	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	856.4375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	458.1250	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	856.9370	YP	HAINES TOW	UNION, COUNTY OF	PND02830	458.1750	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	856.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	462.9500	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	857.4375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	462.9750	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	857.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.0000	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	858.4375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.0250	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	858.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.0500	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	859.4375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.0750	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	859.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.1000	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	860.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.1250	PM
BEAVER	BEAVER, COUNTY OF	PND02711	851.0000	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.1500	PM
BEAVER	BEAVER, COUNTY OF	PND02711	855.2125	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.1750	PM
BEAVER	BEAVER, COUNTY OF	PND02711	855.2375	YP	KITTANNING	CRAWFORD, COUNTY OF	PNA00028	155.0100	PP
BEAVER	BEAVER, COUNTY OF	PND02711	855.4625	YP	KITTANNING	CRAWFORD, COUNTY OF	PNA00028	155.0700	PP
BEAVER	BEAVER, COUNTY OF	PND02711	855.4875	YP	KUTZTOWN	BERKS, COUNTY OF	PNR12844	155.2500	PP
BEAVER	BEAVER, COUNTY OF	PND02711	855.7375	YP	LAMARTINE	SALEM, TOWNSHIP OF	PND01706	153.8150	PL
BEAVER	BEAVER, COUNTY OF	PND02711	857.9625	YP	LAMARTINE	SALEM, TOWNSHIP OF	PND01706	154.0250	PL
BEAVER	BEAVER, COUNTY OF	PND02711	858.9625	YP	LEECHBURG	CRAWFORD, COUNTY OF	PNA00028	155.0100	PP
						′ OF	PNA00028	155.0700	PP
							PND02830	155.3850	PM
							PND02830	460.5250	PM
							PND02830	462.9500	PM
							PND02830	462.9750	PM
							PND02830	463.0000	PM
							PND02830	463.0250	PM
							PND02830	463.0500	PM
							PND02830	463.0750	PM
							PND02830	463.1000	PM
							PND02830	463.1250	PM
							PND02830	463.1500	PM
							PND02830	463.1750	PM
						F	PNR12543	37.1000	PL
						F	PNR12543	37.1800	PL
						F	PNR12543	37.2600	PL
							PND02830	155.3850	PM
							PND02830	460.5250	PM
							PND02830	462.9500	PM
							PND02830	462.9750	PM
							PND02830	463.0000	PM
							PND02830	463.0250	PM
							PND02830	463.0500	PM
							PND02830	463.0750	PM
							PND02830	463.1000	PM
							PND02830	463.1250	PM
							PND02830	463.1500	PM
							PND02830	463.1750	PM
							PND02830	465.5250	PM
							PND02689	151.2350	PL
						P OF	PNR12536	500.9625	PL
						P OF	PNR12536	503.9625	PL
						GH OF	PND01700	154.0250	PL
						GH OF	PND01700	155.9850	PL
						′ OF	PND02639	856.2125	YP
						′ OF	PND02639	856.4875	YP
						′ OF	PND02639	857.2125	YP
						′ OF	PND02639	857.4875	YP
						′ OF	PND02639	858.2125	YP
						′ OF	PND02639	858.4875	YP
						′ OF	PND02639	859.2125	YP
FELTON	WASHINGTON, TOWNSHIP OF	PNA00016	155.9850	PL	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
FELTON	WASHINGTON, TOWNSHIP OF	PNA00016	158.9400	PL	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
FREEPORT	CRAWFORD, COUNTY OF	PNA00028	155.0700	PP	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
GIRARD	WEST ERIE, COUNTY OF	PND01107	462.9500	PM	MEADVILLE	CRAWFORD, COUNTY OF	PNA00028	460.2250	PP
GIRARD	WEST ERIE, COUNTY OF	PND01107	462.9750	PM	MILLERSTOW	GREENWOOD, TOWNSHIP OF	PNR11845	45.2400	PL
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.0000	PM	MILTON	UNION, COUNTY OF	PND02830	460.5250	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.0250	PM	MILTON	UNION, COUNTY OF	PND02830	462.9500	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.0500	PM	MILTON	UNION, COUNTY OF	PND02830	462.9750	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.0750	PM	MILTON	UNION, COUNTY OF	PND02830	463.0000	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.1000	PM	MILTON	UNION, COUNTY OF	PND02830	463.0250	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.1250	PM	MILTON	UNION, COUNTY OF	PND02830	463.0500	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.1500	PM	MILTON	UNION, COUNTY OF	PND02830	463.0750	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.1750	PM	MILTON	UNION, COUNTY OF	PND02830	463.1000	PM
GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP	MILTON	UNION, COUNTY OF	PND02830	463.1250	PM

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ELYRIA	NORTH CENTRAL EMERGENCY MED	PND02737	155.1750	PM
FELICITY	SPEDUTO, LOUIS M	PND02686	159.1200	PH
GRATIOT	NATIONAL TRAIL FIRE DEPT INC	PNR12784	33.8600	PF
GRATIOT	NATIONAL TRAIL FIRE DEPT INC	PNR12784	33.9800	PF
GREENVILLE	YOUNGSTOWN, CITY OF	PNA00017	154.8750	PP
GREENVILLE	YOUNGSTOWN, CITY OF	PNA00017	155.7300	PP
HAYESVILLE	ASHLAND, COUNTY OF	PND02627	151.2200	PF
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	39.5800	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	151.3400	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	155.3700	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	155.7750	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	158.9550	PP
INDEPENDEN	INDEPENDENCE, CITY OF	PNR11834	159.3000	PP
JACKSON	PREBLE, COUNTY OF	PNA00018	44.7400	PP
JACKSON	PREBLE, COUNTY OF	PNA00018	45.0200	PP
JACKSON	PREBLE, COUNTY OF	PNA00018	45.1000	PP
JAMESTOWN	GREENVIEW LOCAL SCHOOL DIST.	PND02581	155.2650	PS
JEFFERSON	ASHTABULA, COUNTY OF	PNR12059	155.8050	PL
JEROMESVIL	ASHLAND, COUNTY OF	PND02627	151.2200	PF
KENTON	LIBERTY, TOWNSHIP OF	PND02570	465.6000	PF
LORAIN	LAKELAND CORP	PND00738	155.2800	PM
LORAIN	LAKELAND CORP	PND00738	155.3400	PM
LORAIN	LAKELAND CORP	PND00738	463.0000	PM
LORAIN	LAKELAND CORP	PND00738	463.0250	PM
LORAIN	LAKELAND CORP	PND00738	463.0500	PM
LORAIN	LAKELAND CORP	PND00738	463.0750	PM
LORAIN	LAKELAND CORP	PND00738	463.1250	PM
LORAIN	LAKELAND CORP	PND00738	463.1500	PM
LORAIN	LAKELAND CORP	PND00738	463.1750	PM
LORAIN	LORAIN, CITY OF	PN209082	154.8750	PP
LORAIN	LORAIN, CITY OF	PN209082	155.2500	PP
LORAIN	LORAIN, CITY OF	PN209082	155.3700	PP
LORAIN	LORAIN, CITY OF	PND01029	173.2625	IW
LOUDONVILL	ASHLAND, COUNTY OF	PND02627	151.2200	PF
MARBLEHEAD	OTTAWA, COUNTY OF	PND00040	154.1000	PL
MARYSVILLE	NORTH BALTIMORE, VILLAGE OF	PNA00027	151.2500	PL
MARYSVILLE	NORTH BALTIMORE, VILLAGE OF			
MEDINA	MEDINA, COUNTY OF			
MEDINA	MEDINA, COUNTY OF			
MIDDLEBURG	MIDDLEBURG HEIGHTS, CITY OF			
MIDDLEBURG	MIDDLEBURG HEIGHTS, CITY OF			
MIFFLIN	ASHLAND, COUNTY OF			
MILAN	NORTH CENTRAL EMERGENCY I			
MILFORD	MIAMI TOWNSHIP FIRE & EMS			
MILFORD	MIAMI TOWNSHIP FIRE & EMS			
MILFORD	MIAMI TOWNSHIP FIRE & EMS			
MILFORD	MIAMI, TOWNSHIP OF			
NANKIN	ASHLAND, COUNTY OF			
NEWARK	NATIONAL TRAIL FIRE DEPT INC			
NEWARK	NATIONAL TRAIL FIRE DEPT INC			
NORTH BALT	NORTH BALTIMORE, VILLAGE OF			
NORTH BALT	NORTH BALTIMORE, VILLAGE OF			
NORWALK	STANSBERY, SCOTT			
NORWALK	STANSBERY, SCOTT			
NOVA	ASHLAND, COUNTY OF			
OAK HARBOR	OTTAWA, COUNTY OF			
OUTVILLE	HARRISON, TOWNSHIP OF			
OUTVILLE	HARRISON, TOWNSHIP OF			
PERRYSVILL	ASHLAND, COUNTY OF			
POLK	ASHLAND, COUNTY OF			
PORT CLINT	OTTAWA, COUNTY OF			
RICHWOOD	NORTH BALTIMORE, VILLAGE OF			
SAVANNAH	ASHLAND, COUNTY OF			
SHAKER HEI	SHAKER HEIGHTS, CITY OF			
SHAKER HEI	SHAKER HEIGHTS, CITY OF			
SHAKER HEI	SHAKER HEIGHTS, CITY OF			
SHAKER HEI	SHAKER HEIGHTS, CITY OF			
SHELBY	SHARON, TOWNSHIP OF			
SOLON	SOLON, CITY OF			
SOLON	SOLON, CITY OF			
SOLON	SOLON, CITY OF			
SULLIVAN	ASHLAND, COUNTY OF			
TALLMADGE	PREBLE, COUNTY OF			
TALLMADGE	PREBLE, COUNTY OF			
TALLMADGE	PREBLE, COUNTY OF			
TALLMADGE	PREBLE, COUNTY OF			
TIPP CITY	KENWOOD BAPTIST CHURCH			
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	856.7375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	857.4375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	857.7375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	858.4375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	858.7375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	859.4375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	859.7375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	860.4375	YP
TIPP CITY	KENWOOD BAPTIST CHURCH	PND02578	860.7375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	856.4375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	856.7375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	857.4375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	857.7375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	858.4375	YP
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TROY	KENWOOD BAPTIST CHURCH	PND02578	859.4375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	859.7375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	860.4375	YP
TROY	KENWOOD BAPTIST CHURCH	PND02578	860.7375	YP
YOUNGSTOWN	YOUNGSTOWN, CITY OF	PNA00017	173.3625	PL

Oklahoma

	GARFIELD, COUNTY OF	PNR12544	153.9950	PL
	GARFIELD, COUNTY OF	PNR12544	158.7450	PL
	SPAVINAW, CITY OF	PNR11831	154.3850	PF
ATOKA	ATOKA, CITY OF	PND02729	154.4450	PF
CLEVELAND	CLEVELAND, CITY OF	PND02708	47.6200	PS
CLINTON	CLINTON, CITY OF	PND02728	153.7700	PF
CLINTON	CLINTON, CITY OF	PND02728	154.4300	PF
CRESCENT	CRESCENT, CITY OF	PNA00025	155.4900	PP
CRESCENT	CRESCENT, CITY OF	PNA00025	155.6550	PP
CRESCENT	CRESCENT, CITY OF	PNA00025	155.6700	PP
GARBER	GARFIELD, COUNTY OF	PNR12544	158.7450	PL
HAWORTH	PAULS VALLEY GENERAL HOSPITAL	PND02730	151.0700	PF
HAWORTH	PAULS VALLEY GENERAL HOSPITAL	PND02730	154.0700	PF
LAMONT	GARFIELD, COUNTY OF	PNR12544	158.7450	PL

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	BERKS, COUNTY OF	PNR12844	155.2500	PP
	BLUE RIDGE HOOK & LADDER FIRE	PND02807	453.2875	PF
	BLUE RIDGE HOOK & LADDER FIRE	PND02807	458.2875	PF
	DERRY, TOWNSHIP OF	PNR12543	37.1000	PL
	DERRY, TOWNSHIP OF	PNR12543	37.1800	PL
	DERRY, TOWNSHIP OF	PNR12543	37.2600	PL
	DU BOIS, CITY OF	PNA00023	453.1000	PL
	LACKAWANNA, COUNTY OF	PND02765	158.8350	PL
	LACKAWANNA, COUNTY OF	PND02765	453.3750	PL
	LACKAWANNA, COUNTY OF	PND02765	453.7000	PL
	LACKAWANNA, COUNTY OF	PND02765	453.9875	PL
	LACKAWANNA, COUNTY OF	PND02765	458.3750	PL
	LACKAWANNA, COUNTY OF	PND02765	458.7000	PL
	LACKAWANNA, COUNTY OF	PND02765	458.9875	PL
	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.1600	PS

	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2650	PS	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2800	PS	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.3400	PS	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
	NESQUEHONING, BOROUGH OF	PND02730	153.8300	PF	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
	PENNSYLVANIA, COMMONWEALTH	PNA00012	453.2875	PL	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
	PENNSYLVANIA, COMMONWEALTH	PNA00012	453.3625	PL	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
	PENNSYLVANIA, COMMONWEALTH	PNA00012	458.2875	PL	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
	SUSQUEHANNA TOWNSHIP E M A	PND02790	33.1600	PS	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
	WASHINGTON, TOWNSHIP OF	PNA00016	155.9400	PL	GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
	WEST MEAD, TOWNSHIP OF	PND00622	153.9800	PP	GLASSPORT	GLASSPORT CITIZENS HOSE CO NO 1	PND02628	33.8000	PF
	WESTERN SALISBURY FIRE CO	PND02546	153.8300	PF	GLASSPORT	MC KEESPORT, CITY OF	PND02688	155.7600	PL
	WESTERN SALISBURY FIRE CO	PND02546	153.9500	PF	GREENSBURG	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.1600	PS
ABINGTON	MONTGOMERY, COUNTY OF	PN692475	854.9625	YP	GREENSBURG	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2650	PS
ALLENTOWN	ALLENTOWN, CITY OF	PNA00029	154.7700	PP	GREENSBURG	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2800	PS
ALLENTOWN	ALLENTOWN, CITY OF	PNA00029	154.8900	PP	GREENSBURG	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.3400	PS
ALLENTOWN	ALLENTOWN, CITY OF	PNA00029	158.7900	PP	HAINES TOW	UNION, COUNTY OF	PND02830	155.3850	PM
ALLENTOWN	ALLENTOWN, CITY OF	PNA00029	159.0900	PP	HAINES TOW	UNION, COUNTY OF	PND02830	458.0250	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	855.2125	YP	HAINES TOW	UNION, COUNTY OF	PND02830	458.0750	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	856.4375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	458.1250	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	856.9370	YP	HAINES TOW	UNION, COUNTY OF	PND02830	458.1750	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	856.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	462.9500	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	857.4375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	462.9750	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	857.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.0000	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	858.4375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.0250	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	858.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.0500	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	859.4375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.0750	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	859.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.1000	PM
ALLENTOWN	ALLENTOWN, CITY OF	PND02761	860.9375	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.1250	PM
BEAVER	BEAVER, COUNTY OF	PND02711	851.0000	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.1500	PM
BEAVER	BEAVER, COUNTY OF	PND02711	855.2125	YP	HAINES TOW	UNION, COUNTY OF	PND02830	463.1750	PM
BEAVER	BEAVER, COUNTY OF	PND02711	855.2375	YP	KITTANNING	CRAWFORD, COUNTY OF	PNA00028	155.0100	PP
BEAVER	BEAVER, COUNTY OF	PND02711	855.4625	YP	KITTANNING	CRAWFORD, COUNTY OF	PNA00028	155.0700	PP
BEAVER	BEAVER, COUNTY OF	PND02711	855.4875	YP	KUTZTOWN	BERKS, COUNTY OF	PNR12844	155.2500	PP
BEAVER	BEAVER, COUNTY OF	PND02711	855.7375	YP	LAMARTINE	SALEM, TOWNSHIP OF	PND01706	153.8150	PL
BEAVER	BEAVER, COUNTY OF	PND02711	857.9625	YP	LAMARTINE	SALEM, TOWNSHIP OF	PND01706	154.0250	PL
BEAVER	BEAVER, COUNTY OF	PND02711	858.9625	YP	LEECHBURG	CRAWFORD, COUNTY OF	PNA00028	155.0100	PP
BEAVER	BEAVER, COUNTY OF	PND02711	859.9625	YP	LEECHBURG	CRAWFORD, COUNTY OF	PNA00028	155.0700	PP
BEAVER	BEAVER, COUNTY OF	PND02711	860.9875	YP	LEWIS TOWN	UNION, COUNTY OF	PND02830	155.3850	PM
BENSALEM	UNION FIRE COMPANY	PNR12564	506.3875	PF	LEWIS TOWN	UNION, COUNTY OF	PND02830	460.5250	PM
BENSALEM	UNION FIRE COMPANY	PNR12564	509.3875	PF	LEWIS TOWN	UNION, COUNTY OF	PND02830	462.9500	PM
BRISTOL	GOODWILL HOSE COMPANY 3	PNR12815	460.6250	PF	LEWIS TOWN	UNION, COUNTY OF	PND02830	462.9750	PM
BRISTOL	GOODWILL HOSE COMPANY 3	PNR12815	465.6250	PF	LEWIS TOWN	UNION, COUNTY OF	PND02830	463.0000	PM
BUSHKILL	LEHMAN, TOWNSHIP OF	PND01707	453.2250	PL	LEWIS TOWN	UNION, COUNTY OF	PND02830	463.0250	PM
BUSHKILL	LEHMAN, TOWNSHIP OF	PND01707	458.2250	PL	LEWIS TOWN	UNION, COUNTY OF	PND02830	463.0500	PM
CAMBRIDGE	CRAWFORD, COUNTY OF	PNA00028	460.4250	PP	LEWIS TOWN	UNION, COUNTY OF	PND02830	463.0750	PM
CANONSBURG	CENTRE, TOWNSHIP OF	PNA00010	155.8350	PL	LEWIS TOWN	UNION, COUNTY OF	PND02830	463.1000	PM
CARBONDALE	LACKAWANNA, COUNTY OF	PND02765	158.8350	PL	LEWIS TOWN	UNION, COUNTY OF	PND02830	463.1250	PM
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	856.2125	YP	LEWIS TOWN	UNION, COUNTY OF	PND02830	463.1500	PM
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	856.4875	YP	LEWIS TOWN	UNION, COUNTY OF	PND02830	463.1750	PM
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	857.2125	YP	LEWISTOWN	DERRY, TOWNSHIP OF	PNR12543	37.1000	PL
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	857.4875	YP	LEWISTOWN	DERRY, TOWNSHIP OF	PNR12543	37.1800	PL
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	858.2125	YP	LEWISTOWN	DERRY, TOWNSHIP OF	PNR12543	37.2600	PL
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	858.4875	YP	LIMESTONE	UNION, COUNTY OF	PND02830	155.3850	PM
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	859.2125	YP	LIMESTONE	UNION, COUNTY OF	PND02830	460.5250	PM
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	859.4875	YP	LIMESTONE	UNION, COUNTY OF	PND02830	462.9500	PM
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	860.2125	YP	LIMESTONE	UNION, COUNTY OF	PND02830	462.9750	PM
CARNEGIE	ALLEGHENY, COUNTY OF	PNR12235	860.4875	YP	LIMESTONE	UNION, COUNTY OF	PND02830	463.0000	PM
CHARLEROI	CHARLEROI, BOROUGH OF	PND01701	155.0400	PL	LIMESTONE	UNION, COUNTY OF	PND02830	463.0250	PM
CLAIRTON	JEFFERSON, BOROUGH OF	PND01700	453.7750	PL	LIMESTONE	UNION, COUNTY OF	PND02830	463.0500	PM
CLAIRTON	JEFFERSON, BOROUGH OF	PND01700	458.7750	PL	LIMESTONE	UNION, COUNTY OF	PND02830	463.0750	PM
CONNEAUT L	CRAWFORD, COUNTY OF	PNA00028	460.2250	PP	LIMESTONE	UNION, COUNTY OF	PND02830	463.1000	PM
CONNEAUT L	CRAWFORD, COUNTY OF	PNA00028	460.3250	PP	LIMESTONE	UNION, COUNTY OF	PND02830	463.1250	PM
CONNEAUT L	CRAWFORD, COUNTY OF	PNA00028	460.4000	PP	LIMESTONE	UNION, COUNTY OF	PND02830	463.1500	PM
CONNEAUT L	CRAWFORD, COUNTY OF	PNA00028	460.4250	PP	LIMESTONE	UNION, COUNTY OF	PND02830	463.1750	PM
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP	LIMESTONE	UNION, COUNTY OF	PND02830	465.5250	PM
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP	LUZERNE	WAYNE, COUNTY OF	PND02689	151.2350	PL
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP	MALVERN	UWCHLAN, TOWNSHIP OF	PNR12536	500.9625	PL
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP	MALVERN	UWCHLAN, TOWNSHIP OF	PNR12536	503.9625	PL
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP	MANSFIELD	JEFFERSON, BOROUGH OF	PND01700	154.0250	PL
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP	MANSFIELD	JEFFERSON, BOROUGH OF	PND01700	155.9850	PL
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
CORAOPOLIS	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
DARBY	PRONET INC	PND02637	152.0075	PS	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
ERIE	HAMOT MEDICAL CENTER	PND02832	155.1750	PS	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
ERIE	HAMOT MEDICAL CENTER	PND02832	155.2800	PS	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
FELTON	WASHINGTON, TOWNSHIP OF	PNA00016	155.9850	PL	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
FELTON	WASHINGTON, TOWNSHIP OF	PNA00016	158.9400	PL	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
FREEPORT	CRAWFORD, COUNTY OF	PNA00028	155.0700	PP	MC MURRAY	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
GIRARD	WEST ERIE, COUNTY OF	PND01107	462.9500	PM	MEADVILLE	CRAWFORD, COUNTY OF	PNA00028	460.2250	PP
GIRARD	WEST ERIE, COUNTY OF	PND01107	462.9750	PM	MILLERSTOW	GREENWOOD, TOWNSHIP OF	PNR11845	45.2400	PL
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.0000	PM	MILTON	UNION, COUNTY OF	PND02830	460.5250	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.0250	PM	MILTON	UNION, COUNTY OF	PND02830	462.9500	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.0500	PM	MILTON	UNION, COUNTY OF	PND02830	462.9750	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.0750	PM	MILTON	UNION, COUNTY OF	PND02830	463.0000	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.1000	PM	MILTON	UNION, COUNTY OF	PND02830	463.0250	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.1250	PM	MILTON	UNION, COUNTY OF	PND02830	463.0500	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.1500	PM	MILTON	UNION, COUNTY OF	PND02830	463.0750	PM
GIRARD	WEST ERIE, COUNTY OF	PND01107	463.1750	PM	MILTON	UNION, COUNTY OF	PND02830	463.1000	PM
GLASSPORT	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP	MILTON	UNION, COUNTY OF	PND02830	463.1250	PM

MILTON	UNION, COUNTY OF	PND02830	463.1500	PM
MILTON	UNION, COUNTY OF	PND02830	463.1750	PM
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
MONROEVILL	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
MONROEVILL	MONROEVILLE, MUNICIPALITY OF	PNA00025	159.2400	PP
MORRISDALE	MC KEESPORT, CITY OF	PND02688	453.1500	PH
MORRISDALE	MC KEESPORT, CITY OF	PND02688	458.1500	PH
MOSCOW	LACKAWANNA, COUNTY OF	PND02765	158.8350	PL
NEW BLOOMF	CENTRE, TOWNSHIP OF	PNA00010	39.8200	PL
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
NEW KENSIN	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
NEWFOUNDLA	WAYNE, COUNTY OF	PND02689	155.8950	PL
NEWFOUNDLA	WAYNE, COUNTY OF	PND02689	158.9550	PL
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	856.2125	YP
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	856.4875	YP
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	857.2125	YP
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	857.4875	YP
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	858.2125	YP
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	858.4875	YP
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	859.2125	YP
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	859.4875	YP
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	860.2125	YP
NORTH VERS	ALLEGHENY, COUNTY OF	PNR12235	860.4875	YP
NORTH VERS	NORTH VERSAILLES, TOWNSHIP OF	PNR12544	154.7700	PP
NORTH VERS	NORTH VERSAILLES, TOWNSHIP OF	PNR12544	155.6100	PP
NORTH VERS	NORTH VERSAILLES, TOWNSHIP OF	PNR12544	156.0300	PP
NORTH VERS	NORTH VERSAILLES, TOWNSHIP OF	PNR12544	460.1000	PP
NORTH VERS	NORTH VERSAILLES, TOWNSHIP OF	PNR12544	465.1000	PP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
OAKDALE	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
OXFORD	UNION FIRE CO 1	PND02757	500.7125	PF
OXFORD	UNION FIRE CO 1	PND02757	503.7125	PF
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
PITTSBURGH	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
PLEASANT U	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.1600	PS
PLEASANT U	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2650	PS
PLEASANT U	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.2800	PS
PLEASANT U	MUTUAL AID AMBULANCE SERVICE	PNR11722	155.3400	PS
PLUM	LOGANS FERRY HEIGHTS VOLUN.	PNR12902	33.8000	PF
PLUM	LOGANS FERRY HEIGHTS VOLUN.	PNR12902	33.8600	PF
SALEM TOWN	SALEM, TOWNSHIP OF	PNR11700	156.1050	PH
SAYRE	HAMOT MEDICAL CENTER	PND02832	462.9750	PM
SCRANTON	LACKAWANNA, COUNTY OF	PND02765	158.8350	PL
SCRANTON	LACKAWANNA, COUNTY OF	PND02765	453.3750	PL
SCRANTON	LACKAWANNA, COUNTY OF	PND02765	453.7000	PL
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
SEWICKLEY	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
SOUTH ABIN	CLARKS GREEN VOLUN. FIRE CO	PNR12025	154.2950	PF
SOUTH ABIN	CLARKS GREEN VOLUN. FIRE CO	PNR12025	154.3100	PF
TITUSVILLE	CRAWFORD, COUNTY OF	PNA00028	460.3250	PP
TITUSVILLE	TITUSVILLE, CITY OF	PNR12104	154.8450	PP
TITUSVILLE	TITUSVILLE, CITY OF	PNR12104	155.5200	PP
TITUSVILLE	TITUSVILLE, CITY OF	PNR12104	155.6250	PP
TITUSVILLE	TITUSVILLE, CITY OF	PNR12158	154.8450	PP
TITUSVILLE	TITUSVILLE, CITY OF	PNR12158	155.5200	PP
TITUSVILLE	TITUSVILLE, CITY OF	PNR12158	155.6250	PP
TITUSVILLE	TITUSVILLE, CITY OF	PNR12842	33.4400	PF
TITUSVILLE	TITUSVILLE, CITY OF	PNR12842	33.8200	PF
TITUSVILLE	TITUSVILLE, CITY OF	PNR12842	33.9600	PF
TITUSVILLE	TITUSVILLE, CITY OF	PNR12842	33.9800	PF
TROUT RUN	LEWIS, TOWNSHIP OF	PNR12829	158.7450	PL
TURTLE CRE	TURTLE CRK VALLEY COUNCIL OF GO	PND01276	154.8150	PL
WAYMART	WAYNE, COUNTY OF	PND02689	155.8950	PL
WAYMART	WAYNE, COUNTY OF	PND02689	158.9550	PL
WAYNE	RADNOR FIRE CO. OF WAYNE INC	PND02727	33.7000	PF
WAYNE	RADNOR FIRE CO. OF WAYNE INC	PND02727	33.8400	PF
WAYNE	RADNOR FIRE CO. OF WAYNE INC	PND02727	33.8800	PF
WAYNE	RADNOR FIRE CO. OF WAYNE INC	PND02727	33.9000	PF
WEST HAZLE	WEST HAZLETON, BOROUGH OF	PNR12739	155.1000	PL
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	856.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	856.4875	YP
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	857.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	857.4875	YP
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	858.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	858.4875	YP
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	859.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	859.4875	YP
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	860.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PND02639	860.4875	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	856.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	856.4875	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	857.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	857.4875	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	858.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	858.4875	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	859.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	859.4875	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	860.2125	YP
WEXFORD	ALLEGHENY, COUNTY OF	PNR12235	860.4875	YP
WHITESBURG	CRAWFORD, COUNTY OF	PNA00028	155.0100	PP
WHITESBURG	CRAWFORD, COUNTY OF	PNA00028	155.0700	PP
WHITESBURG	CRAWFORD, COUNTY OF	PNA00028	155.4750	PP
YORK	WASHINGTON, TOWNSHIP OF	PNA00016	158.9400	PL

Rhode Island

	COVENTRY, TOWN OF	PND02729	75.4800	PF
GLENDALE	GLENDALE FIRE DISTRICT	PNR12742	154.1900	PF
GLENDALE	GLENDALE FIRE DISTRICT	PNR12742	154.2800	PF
GLENDALE	GLENDALE FIRE DISTRICT	PNR12742	154.3250	PF
NARRAGANSE	NARRAGANSETT, TOWN OF	PNR12726	156.1800	PH

South Carolina

	CALHOUN, COUNTY OF	PND01707	153.8750	PL
	CALHOUN, COUNTY OF	PND01707	155.8050	PL
	CHEROKEE, COUNTY OF	PNR11877	158.8200	PL
	CHEROKEE, COUNTY OF	PNR11877	158.8800	PL
	CLARENDON MEMORIAL HOSPITAL	PNR11483	155.3400	PS
	LAURENS, CITY OF	PNR12544	154.2050	PF
BEAUFORT	BEAUFORT, COUNTY OF	PNR12116	460.2250	PP
BEAUFORT	BEAUFORT, COUNTY OF	PNR12116	460.3000	PP
BEAUFORT	BEAUFORT, COUNTY OF	PNR12116	465.2250	PP
BEAUFORT	BEAUFORT, COUNTY OF	PNR12116	465.2750	PP
BEAUFORT	BEAUFORT, COUNTY OF	PNR12116	465.3000	PP
COLUMBIA	RICHLAND, COUNTY OF	PND02174	855.2125	GP
CONWAY	MYRTLE BEACH, CITY OF	PNA00025	855.2375	GF
CONWAY	MYRTLE BEACH, CITY OF	PNA00025	866.2000	GF
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	854.9625	YP
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	855.7125	YP
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	856.2625	YP
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	857.2625	YP
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	858.2625	YP
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	858.7125	YP
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	859.2625	YP
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	859.9625	YP
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	860.2625	YP
EFFINGHAM	FLORENCE, COUNTY OF	PNA00029	860.9625	YP
GAFFNEY	CHEROKEE, COUNTY OF	PNR11877	158.8200	PL
GAFFNEY	CHEROKEE, COUNTY OF	PNR11877	158.8800	PL
GREENVILLE	SOUTH CAROLINA, STATE OF	PNA00010	155.6400	PP
GREENVILLE	SOUTH CAROLINA, STATE OF	PNA00010	452.2750	PP
HARTSVILLE	HARTSVILLE RESCUE SQUAD	PND02833	155.2350	PS
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	854.9625	YP
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	855.7125	YP
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	856.2625	YP
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	857.2625	YP
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	858.2625	YP
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	858.7125	YP
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	859.2625	YP
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	859.9625	YP
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	860.2625	YP
LAKE CITY	FLORENCE, COUNTY OF	PNA00029	860.9625	YP
LAURENS	LAURENS, CITY OF	PNR12544	154.2050	PF
MANNING	CLARENDON MEMORIAL HOSPITAL	PNR11483	155.3400	PS

MYRTLE BEA	MYRTLE BEACH, CITY OF	PNA00025	855.2375	GF
MYRTLE BEA	MYRTLE BEACH, CITY OF	PNA00025	866.2000	GF
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	854.9625	YP
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	855.7125	YP
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	856.2625	YP
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	857.2625	YP
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	858.2625	YP
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	858.7125	YP
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	859.2625	YP
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	859.9625	YP
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	860.2625	YP
PAMPLICO	FLORENCE, COUNTY OF	PNA00029	860.9625	YP
PELZER	SOUTH CAROLINA, STATE OF	PNA00010	457.2750	PP
SAINT MATT	CALHOUN, COUNTY OF	PND01707	155.8050	PL
SILVERSTRE	SOUTH CAROLINA, STATE OF	PND02731	151.1000	PO
SILVERSTRE	SOUTH CAROLINA, STATE OF	PND02731	151.1900	PO
SILVERSTRE	SOUTH CAROLINA, STATE OF	PND02731	151.2350	PO
SILVERSTRE	SOUTH CAROLINA, STATE OF	PND02731	159.2700	PO
SILVERSTRE	SOUTH CAROLINA, STATE OF	PND02731	159.3000	PO
SILVERSTRE	SOUTH CAROLINA, STATE OF	PND02731	159.3750	PO
SILVERSTRE	SOUTH CAROLINA, STATE OF	PND02731	159.4200	PO
SIMPSONVIL	SOUTH CAROLINA, STATE OF	PNA00010	457.2750	PP
SPARTANBUR	DAVIDSON, C EDWARD	PNR12906	47.4600	PS
SPARTANBUR	SOUTH CAROLINA, STATE OF	PNA00010	457.2750	PP
WEST COLUM	RICHLAND LEXINGTON AIRPORT	PND02848	460.6250	PL
WEST COLUM	RICHLAND LEXINGTON AIRPORT	PND02848	465.6250	PL

South Dakota

	HOT SPRINGS VOLUN. AMBULANCE	PNR12441	155.2350	PS
ALCESTER	ALCESTER, CITY OF	PNA00012	153.9350	PL
ALCESTER	ALCESTER, CITY OF	PNA00012	155.8350	PL
ALCESTER	DAVISON, COUNTY OF	PNA00019	153.9350	PL
ALCESTER	DAVISON, COUNTY OF	PNA00019	155.8350	PL
BERESFORD	BERESFORD, CITY OF	PND02728	155.1750	PS
BUFFALO GA	CUSTER, COUNTY OF	PND02625	154.3550	PF
CUSTER	ALCESTER, CITY OF	PNA00012	158.7450	PL
CUSTER	CUSTER, COUNTY OF	PND02625	154.3550	PF
HERMOSA	CUSTER, COUNTY OF	PND02625	154.3550	PF
HOT SPRING	ALCESTER, CITY OF	PNA00012	153.8000	PL
HOT SPRING	ALCESTER, CITY OF	PNA00012	154.9950	PL
HOT SPRING	HOT SPRINGS VOLUN. AMBULANCE	PNR12441	155.2350	PS
MITCHELL	DAVISON, COUNTY OF	PNA00019	453.6250	PL
MITCHELL	DAVISON, COUNTY OF	PNA00019	453.8750	PL
MITCHELL	DAVISON, COUNTY OF	PNA00019	458.6250	PL
MITCHELL	DAVISON, COUNTY OF	PNA00019	458.8750	PL
PRINGLE	CUSTER, COUNTY OF	PND02625	154.3550	PF
YANKTON	SOUTH DAKOTA, STATE OF	PNA00028	458.5000	PP
YANKTON	SOUTH DAKOTA, STATE OF	PNA00028	460.4750	PP
YANKTON	SOUTH DAKOTA, STATE OF	PNA00028	465.4750	PP

Tennessee

	TIPTON, COUNTY OF	PND01708	458.1875	PL
BATH SPRIN	TIPTON, COUNTY OF	PND01708	453.8000	PP
BATH SPRIN	TIPTON, COUNTY OF	PND01708	458.8000	PP
BRIGHTON	TIPTON, COUNTY OF	PND01708	460.3750	PP
BRIGHTON	TIPTON, COUNTY OF	PND01708	465.3750	PP
BRIGHTON	TIPTON, COUNTY OF	PND01708	465.4000	PP
CLARKSVILL	CLARKSVILLE, CITY OF	PNA00014	453.6250	PL
CLARKSVILL	CLARKSVILLE, CITY OF	PNA00014	458.6250	PL
COLLEGEDAL	COLLEGEDALE, CITY OF	PND02832	453.1750	PH
COLLEGEDAL	COLLEGEDALE, CITY OF	PND02832	458.1750	PH
COLUMBIA	COLUMBIA, CITY OF	PND02580	155.3700	PP
COLUMBIA	COLUMBIA, CITY OF	PND02580	460.3500	PP
COLUMBIA	COLUMBIA, CITY OF	PND02580	460.4000	PP
COLUMBIA	COLUMBIA, CITY OF	PND02580	465.3500	PP
COLUMBIA	COLUMBIA, CITY OF	PND02580	465.4000	PP
COVINGTON	TIPTON, COUNTY OF	PND01708	460.3750	PP
EVA	EVA VOLUNTEER FIRE DEPT	PND02547	154.2350	PF
FRANKLIN	WILLIAMSON COUNTY RESCUE SQ.	PND02728	151.1150	PF
FRANKLIN	WILLIAMSON COUNTY RESCUE SQ.	PND02728	153.9500	PF
FRANKLIN	WILLIAMSON COUNTY RESCUE SQ.	PND02728	154.3850	PF
LIVINGSTON	LIVINGSTON, TOWN OF	PNA00011	155.8500	PP
LIVINGSTON	LIVINGSTON, TOWN OF	PNA00011	158.7900	PP
RED BOILIN	RED BOILING SPRINGS, CITY OF	PND01525	151.2200	PF
RED BOILIN	RED BOILING SPRINGS, CITY OF	PND01525	154.0700	PF
SPENCER	VAN BUREN, COUNTY OF	PNR12829	154.7250	PP
SPENCER	VAN BUREN, COUNTY OF	PNR12829	158.8500	PP
SUGAR TREE	TIPTON, COUNTY OF	PND01708	453.8000	PP
SUGAR TREE	TIPTON, COUNTY OF	PND01708	458.8000	PP
THOMPSONS	WILLIAMSON COUNTY RESCUE SQ.	PND02728	153.9500	PF
THOMPSONS	WILLIAMSON COUNTY RESCUE SQ.	PND02728	154.3850	PF

Texas

	CLARKSVILLE, CITY OF	PNA00031	154.7100	PP
	LOCKHART, CITY OF	PNR11778	154.3700	PF
	ODESSA, CITY OF	PND01175	453.3875	PL
	SAN ANGELO, CITY OF	PND02578	855.4625	YP
	SAN ANGELO, CITY OF	PND02578	856.4625	YP
	SAN ANGELO, CITY OF	PND02578	857.4625	YP
	SAN ANGELO, CITY OF	PND02578	858.4625	YP
	SAN ANGELO, CITY OF	PND02578	859.4625	YP
	SAN ANGELO, CITY OF	PND02578	859.9375	YP
	SAN ANGELO, CITY OF	PND02578	860.4625	YP
	SAN ANGELO, CITY OF	PND02578	860.9375	YP
	SCOTTSVILLE, CITY OF	PND02630	451.1375	IW
ADDISON	BAY CITY, CITY OF	PND01705	155.1000	PL
ALBANY	SHACKELFORD, COUNTY OF	PNA00021	154.9800	PL
ALBANY	SHACKELFORD, COUNTY OF	PNA00021	158.9850	PL
AUSTIN	SETON MEDICAL CENTER	PND02692	855.4625	GP
BASTROP	BASTROP, COUNTY OF	PND01269	151.1000	PP
BAY CITY	BAY CITY, CITY OF	PND01705	153.9800	PP
BAY CITY	BAY CITY, CITY OF	PND01705	155.7300	PP
BAY CITY	SCOTTSVILLE, CITY OF	PND02630	47.0200	PH
BAY CITY	SCOTTSVILLE, CITY OF	PND02630	47.0600	PH
CENTERVILL	CENTERVILLE, CITY OF	PND02583	153.9950	PL
CENTERVILL	CENTERVILLE, CITY OF	PND02583	158.7450	PL
CLARKSVILL	CLARKSVILLE, CITY OF	PNA00031	155.2500	PP
CLEBURNE	CLEBURNE, CITY OF	PNA00015	151.1450	PP
CLEBURNE	CLEBURNE, CITY OF	PNA00015	155.0100	PP
COLLEGE ST	TEXAS, STATE OF	PNA00024	856.2625	YP
COLLEGE ST	TEXAS, STATE OF	PNA00024	856.9375	YP
COLLEGE ST	TEXAS, STATE OF	PNA00024	857.7375	YP
COLLEGE ST	TEXAS, STATE OF	PNA00024	857.9625	YP
COLLEGE ST	TEXAS, STATE OF	PNA00024	858.9625	YP
COLLEGE ST	TEXAS, STATE OF	PNA00024	859.4375	YP
COLLEGE ST	TEXAS, STATE OF	PNA00024	859.9375	YP
CONROE	PANORAMA, CITY OF	PND02686	155.5350	PP
DALLAS	CENTRAL AMBULANCE SERVICE INC	PND01946	453.1750	PM
DALLAS	CENTRAL AMBULANCE SERVICE INC	PND01946	458.1750	PM
DALLAS	SAN ANGELO, CITY OF	PND02578	482.8625	IB
DALLAS	SAN ANGELO, CITY OF	PND02578	485.8625	IB
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	866.0125	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	866.0875	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	866.4625	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	866.5125	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	866.5875	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	866.9875	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	867.0125	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	867.4625	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	867.5125	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	867.5875	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	868.0125	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	868.0875	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	868.4625	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	868.7125	YF
DFW AIRPOR	DALLAS FORT WORTH INTER.	PNR12133	868.9375	YF
EASTLAND	EASTLAND, CITY OF	PND01293	154.2800	PF
EASTLAND	EASTLAND, CITY OF	PND01293	154.3250	PF
EDNA	SCOTTSVILLE, CITY OF	PND02630	47.0200	PH
EDNA	SCOTTSVILLE, CITY OF	PND02630	47.0600	PH
ELSA	ELSA, CITY OF	PNA00030	154.9500	PP
ELSA	ELSA, CITY OF	PNA00030	155.3700	PP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	854.9875	YP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	856.9625	YP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	856.9875	YP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	857.9625	YP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	857.9875	YP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	858.9625	YP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	858.9875	YP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	859.9625	YP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	860.9625	YP
GEORGETOWN	GEORGETOWN, CITY OF	PNA00020	860.9875	YP
HARLINGEN	SOUTH TEXAS HOSPITAL	PND02626	155.3400	PS
LA JOYA	HIDALGO, COUNTY OF	PND02764	155.0700	PP
LAMESA	LAMESA, CITY OF	PND02571	153.9500	PF
LAMESA	LAMESA, CITY OF	PND02571	154.2500	PF
LOCKHART	LOCKHART, CITY OF	PNR11778	154.3700	PF
LUBBOCK	BAY CITY, CITY OF	PND01705	154.0250	PL
LUBBOCK	BAY CITY, CITY OF	PND01705	158.9400	PL
LUBBOCK	SCOTTSVILLE, CITY OF	PND02630	47.0200	PH
LUBBOCK	SCOTTSVILLE, CITY OF	PND02630	47.0600	PH
LUBBOCK	SCOTTSVILLE, CITY OF	PND02630	47.1800	PH
LUBBOCK	SCOTTSVILLE, CITY OF	PND02630	151.0850	PH
LUBBOCK	SCOTTSVILLE, CITY OF	PND02630	156.1050	PH
MARSHALL	TEXAS, STATE OF	PNA00024	153.9800	PL
MARSHALL	TEXAS, STATE OF	PNA00024	155.1150	PL
MARSHALL	TEXAS, STATE OF	PNA00024	158.8800	PL
NORTH RICH	NORTH RICHLAND HILLS, CITY OF	PND02674	461.7750	IB
NORTHCREST	NORTHCREST, CITY OF	PNR12828	453.4750	PL
NORTHCREST	NORTHCREST, CITY OF	PNR12828	458.4750	PL
PALESTINE	PALESTINE, CITY OF	PND02831	150.7750	PF
PALESTINE	PALESTINE, CITY OF	PND02831	154.1900	PF
PLAINVIEW	PRUITT, DON F:BARRETT, MILDRED F	PND02602	155.2200	PS
PLAINVIEW	TEXAS, STATE OF	PNA00024	154.7550	PP
PLAINVIEW	TEXAS, STATE OF	PNA00024	154.8150	PP
PLAINVIEW	TEXAS, STATE OF	PNA00024	154.9500	PP
PLAINVIEW	TEXAS, STATE OF	PNA00024	155.3700	PP
PLAINVIEW	TEXAS, STATE OF	PNA00024	155.5200	PP
PLAINVIEW	TEXAS, STATE OF	PNA00024	155.5650	PP
PLAINVIEW	TEXAS, STATE OF	PNA00024	155.7000	PP
PLAINVIEW	TEXAS, STATE OF	PNA00024	158.8950	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	154.9500	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	155.3700	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	453.6750	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	453.9500	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	458.6750	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	458.9500	PP

PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	460.0250	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	460.1500	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	460.2250	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	460.3500	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	465.0250	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	465.1500	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	465.2750	PP
PORT ARTHU	PORT ARTHUR, CITY OF	PNR12829	465.3500	PP
PORT LAVAC	SCOTTSVILLE, CITY OF	PND02630	47.0200	PH
PORT LAVAC	SCOTTSVILLE, CITY OF	PND02630	47.0800	PH
RICARDO	KLEBERG, COUNTY OF	PNR12237	453.2250	PL
RICARDO	KLEBERG, COUNTY OF	PNR12237	458.2250	PL
RIO GRANDE	RIO GRANDE CITY, CITY OF	PND02071	865.2000	GP
SAN ANGELO	SAN ANGELO, CITY OF	PND02578	855.4625	YP
SAN ANGELO	SAN ANGELO, CITY OF	PND02578	856.4625	YP
SAN ANGELO	SAN ANGELO, CITY OF	PND02578	857.4625	YP
SAN ANGELO	SAN ANGELO, CITY OF	PND02578	858.4625	YP
SAN ANGELO	SAN ANGELO, CITY OF	PND02578	859.4625	YP
SAN ANGELO	SAN ANGELO, CITY OF	PND02578	859.9375	YP
SAN ANGELO	SAN ANGELO, CITY OF	PND02578	860.4625	YP
SAN ANGELO	SAN ANGELO, CITY OF	PND02578	860.9375	YP
TEXARKANA	BOWIE COUNTY FIRE FIGHTERS	PN504949	860.4875	GP
VICTORIA	SCOTTSVILLE, CITY OF	PND02630	47.0200	PH
VICTORIA	SCOTTSVILLE, CITY OF	PND02630	47.0600	PH
WASKOM	SOUTH TEXAS HOSPITAL	PND02626	150.7750	PM
WASKOM	SOUTH TEXAS HOSPITAL	PND02626	155.3850	PM
WESLACO	HIDALGO, COUNTY OF	PND02764	154.0550	PP
WESLACO	HIDALGO, COUNTY OF	PND02764	154.8600	PP
WESLACO	HIDALGO, COUNTY OF	PND02764	155.0700	PP
WESLACO	HIDALGO, COUNTY OF	PND02764	156.0300	PP
WOLFFORTH	WOLFFORTH, CITY OF	PND02580	154.7550	PP
WOLFFORTH	WOLFFORTH, CITY OF	PND02580	158.8500	PP
YOAKUM	SCOTTSVILLE, CITY OF	PND02630	47.0200	PH
YOAKUM	SCOTTSVILLE, CITY OF	PND02630	47.0800	PH

Utah

	NORTH SALT LAKE, CITY OF	PNA00013	458.3875	PL
	RICHFIELD, CITY OF	PND02628	154.1450	PF
FARMINGTON	UTAH, STATE OF	PNA00016	155.5050	PP
RICHFIELD	RICHFIELD, CITY OF	PND02628	154.1450	PF
ROY	UTAH, STATE OF	PND02582	155.5050	PP

Virginia

	MOUNT VERNON HOSPITAL	PNR12904	155.2200	PS
	RAPPAHANNOCK RAPIDAN EMS	PND02637	155.2050	PM
	RAPPAHANNOCK RAPIDAN EMS	PND02637	155.2800	PM
	RAPPAHANNOCK RAPIDAN EMS	PND02637	155.3400	PM
	RAPPAHANNOCK RAPIDAN EMS	PND02637	155.4000	PM
	SPOTSYLVANIA, COUNTY OF	PND02628	154.2950	PF
BLACKSTONE	BLACKSTONE, TOWN OF	PNA00024	154.0850	PL
BLACKSTONE	BLACKSTONE, TOWN OF	PNA00024	156.0750	PL
CREWE	BLACKSTONE, TOWN OF	PNA00024	154.0850	PL
CREWE	BLACKSTONE, TOWN OF	PNA00024	156.0750	PL
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	151.1900	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	151.2650	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	151.2950	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	151.3000	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	151.4150	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	151.4450	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	151.4750	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	159.2850	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	159.3600	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	170.4750	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	171.4250	PO
CUMBERLAND	VIRGINIA, COMMONWEALTH OF	PND02731	172.2750	PO
DRAPER	PULASKI, COUNTY OF	PND01700	458.7750	PL
DUBLIN	PULASKI, COUNTY OF	PND01700	458.7750	PL
GLOUCESTER	GLOUCESTER, COUNTY OF	PND02627	153.8300	PF
GLOUCESTER	GLOUCESTER, COUNTY OF	PND02627	154.1750	PF
GLOUCESTER	GLOUCESTER, COUNTY OF	PND02627	154.3100	PF
GLOUCESTER	VIRGINIA, COMMONWEALTH OF	PND02732	151.1900	PO
GLOUCESTER	VIRGINIA, COMMONWEALTH OF	PND02732	151.3700	PO
GLOUCESTER	VIRGINIA, COMMONWEALTH OF	PND02732	159.2550	PO
GLOUCESTER	VIRGINIA, COMMONWEALTH OF	PND02732	159.3600	PO
KILMARNOCK	VIRGINIA, COMMONWEALTH OF	PND02731	151.1900	PO
KILMARNOCK	VIRGINIA, COMMONWEALTH OF	PND02731	151.3700	PO
KILMARNOCK	VIRGINIA, COMMONWEALTH OF	PND02731	159.2550	PO
KILMARNOCK	VIRGINIA, COMMONWEALTH OF	PND02731	159.3600	PO
PULASKI	PULASKI, COUNTY OF	PND01700	45.3200	PL
PULASKI	PULASKI, COUNTY OF	PND01700	453.1000	PL
PULASKI	PULASKI, COUNTY OF	PND01700	453.7750	PL
PULASKI	PULASKI, COUNTY OF	PND01700	458.1000	PL
PULASKI	PULASKI, COUNTY OF	PND01700	458.7700	PL
PULASKI	PULASKI, COUNTY OF	PND01700	458.7750	PL
SAINT CHAR	SAINT CHARLES, TOWN OF	PNA00026	39.5000	PL
SALUDA	VIRGINIA, COMMONWEALTH OF	PND02732	151.1900	PO
SALUDA	VIRGINIA, COMMONWEALTH OF	PND02732	151.3700	PO
SALUDA	VIRGINIA, COMMONWEALTH OF	PND02732	159.2550	PO
SALUDA	VIRGINIA, COMMONWEALTH OF	PND02732	159.3600	PO
SHILOH	PULASKI, COUNTY OF	PND01700	45.2800	PL
SHILOH	PULASKI, COUNTY OF	PND01700	45.3200	PL
SMITHFIELD	SMITHFIELD, TOWN OF	PND02689	155.5500	PP
SMITHFIELD	SMITHFIELD, TOWN OF	PND02689	159.0750	PP

Vermont

	GREENSBORO, TOWN OF	PND02571	460.5875	PF
	GREENSBORO, TOWN OF	PND02571	465.5875	PF
	ORLEANS, CITY OF	PNR12071	154.1600	PF
	ORLEANS, CITY OF	PNR12071	154.2950	PF
BRISTOL	BRISTOL, TOWN OF	PNA00016	155.7150	PL
BRISTOL	BRISTOL, TOWN OF	PNA00016	158.8650	PL
DERBY LINE	DERBY LINE, CITY OF	PND02729	154.1300	PF
DERBY LINE	DERBY LINE, CITY OF	PND02729	154.2950	PF
DERBY LINE	DERBY LINE, CITY OF	PND02729	158.8800	PF
DERBY LINE	DERBY LINE, CITY OF	PND02729	453.9375	PF
DERBY LINE	DERBY LINE, CITY OF	PND02729	458.9375	PF
ESSEX JUNC	WESTFORD, TOWN OF	PNR12130	154.2350	PF
ORLEANS	ORLEANS, CITY OF	PNR12071	154.1600	PF
ORLEANS	ORLEANS, CITY OF	PNR12071	154.2950	PF
SAINT ALBA	SWANTON, VILLAGE OF	PND00701	453.5000	PF
SWANTON	SWANTON, VILLAGE OF	PND00701	458.5000	PF
WESTFORD	WESTFORD, TOWN OF	PNR12130	154.2350	PF

Washington

	ANACORTES, CITY OF	PNA00032	453.5625	PL
	ANACORTES, CITY OF	PNA00032	458.5625	PL
	ENIAT, CITY OF	PNA00021	453.4625	PL
	GRANT COUNTY FIRE DISTRICT 3	PND02729	154.2950	PF
	KIRKLAND, CITY OF	PND00176	453.6625	PL
	KIRKLAND, CITY OF	PND00176	456.6625	PL
	LYNWOOD, CITY OF	PNA00031	453.1125	PL
	LYNWOOD, CITY OF	PNA00031	453.4625	PL
	LYNWOOD, CITY OF	PNA00031	453.4875	PL
	LYNWOOD, CITY OF	PNA00031	453.5625	PL
	LYNWOOD, CITY OF	PNA00031	453.7375	PL
	LYNWOOD, CITY OF	PNA00031	453.9125	PL
	LYNWOOD, CITY OF	PNA00031	458.1125	PL
	LYNWOOD, CITY OF	PNA00031	458.4625	PL
	LYNWOOD, CITY OF	PNA00031	458.4875	PL
	LYNWOOD, CITY OF	PNA00031	458.5625	PL
	LYNWOOD, CITY OF	PNA00031	458.7375	PL
	RENTON, CITY OF	PN215937	453.4625	PL
	THURSTON, COUNTY OF	PND02831	155.1600	PS
	WALLA WALLA, COUNTY OF	PND00740	155.0550	PL
	WALLA WALLA, COUNTY OF	PND00740	155.7450	PL
	WASHINGTON, STATE OF	PND00754	155.2500	PP
ABERDEEN	ABERDEEN, CITY OF	PND02764	155.9850	PL
ABERDEEN	ABERDEEN, CITY OF	PND02764	158.8200	PL
BEVERLY	GRANT COUNTY FIRE DISTRICT 3	PND02729	154.2950	PF
CAMAS	CLARK, COUNTY OF	PND00351	75.8600	PF
CAMAS	CLARK, COUNTY OF	PND00351	153.9500	PF
CAMAS	CLARK, COUNTY OF	PND00351	154.0700	PF
CAMAS	CLARK, COUNTY OF	PND00351	154.3100	PF
CAMAS	CLARK, COUNTY OF	PND00351	154.3700	PF
CAMAS	CLARK, COUNTY OF	PND00351	154.4450	PF
CHEWELAH	WASHINGTON, STATE OF	PND02732	159.2400	PO
CHEWELAH	WASHINGTON, STATE OF	PND02732	159.3600	PO
CHEWELAH	WASHINGTON, STATE OF	PND02732	159.4200	PO
CHEWELAH	WASHINGTON, STATE OF	PND02732	159.4350	PO
CHEWELAH	WASHINGTON, STATE OF	PND02732	159.4500	PO
COSMOPOLIS	ABERDEEN, CITY OF	PND02764	155.9850	PL
COULEE	GRANT COUNTY FIRE DISTRICT 3	PND02729	154.2950	PF
EPHRATA	GRANT COUNTY FIRE DISTRICT 3	PND02729	154.2950	PF
GRAND MOUN	THURSTON, COUNTY OF	PND02831	154.4300	PF
JOYCE	WASHINGTON, STATE OF	PND00754	154.7700	PP
JOYCE	WASHINGTON, STATE OF	PND00754	155.2500	PP
JOYCE	WASHINGTON, STATE OF	PND00754	155.3700	PP
JOYCE	WASHINGTON, STATE OF	PND00754	155.4750	PP
JOYCE	WASHINGTON, STATE OF	PND00754	155.9700	PP
JOYCE	WASHINGTON, STATE OF	PND00754	158.7900	PP
MARYSVILLE	WASHINGTON, STATE OF	PNA00020	154.8450	PP
MARYSVILLE	WASHINGTON, STATE OF	PNA00020	155.5050	PP
MARYSVILLE	WASHINGTON, STATE OF	PNA00020	158.7900	PP
MARYSVILLE	WASHINGTON, STATE OF	PNA00020	453.4750	PP
MARYSVILLE	WASHINGTON, STATE OF	PNA00020	453.9250	PP
MARYSVILLE	WASHINGTON, STATE OF	PNA00020	458.4750	PP
MARYSVILLE	WASHINGTON, STATE OF	PNA00020	458.9250	PP
MEDICAL LA	WASHINGTON, STATE OF	PND01705	453.7250	PL
MEDICAL LA	WASHINGTON, STATE OF	PND01705	458.7250	PL
OLYMPIA	THURSTON, COUNTY OF	PND02582	453.5250	PL
OLYMPIA	THURSTON, COUNTY OF	PND02582	458.5250	PL
OLYMPIA	THURSTON, COUNTY OF	PND02831	153.8000	PF
OLYMPIA	THURSTON, COUNTY OF	PND02831	154.1750	PF
OLYMPIA	THURSTON, COUNTY OF	PND02831	154.3700	PF
OLYMPIA	THURSTON, COUNTY OF	PND02831	154.4300	PF
TAYLOR TOW	THURSTON, COUNTY OF	PND02831	154.0100	PF
TAYLOR TOW	THURSTON, COUNTY OF	PND02831	154.4300	PF
TENINO	THURSTON, COUNTY OF	PND02582	453.2750	PL
TENINO	THURSTON, COUNTY OF	PND02582	453.5250	PL
TENINO	THURSTON, COUNTY OF	PND02582	458.2750	PL
TENINO	THURSTON, COUNTY OF	PND02831	153.8000	PF
TENINO	THURSTON, COUNTY OF	PND02831	154.0100	PF
TENINO	THURSTON, COUNTY OF	PND02831	154.1750	PF
TENINO	THURSTON, COUNTY OF	PND02831	154.4300	PF
TENINO	THURSTON, COUNTY OF	PND02831	155.1600	PS

TONASKET	WASHINGTON, STATE OF	PND02732	151.1600	PO
TONASKET	WASHINGTON, STATE OF	PND02732	151.2350	PO
TONASKET	WASHINGTON, STATE OF	PND02732	151.2950	PO
TONASKET	WASHINGTON, STATE OF	PND02732	159.3600	PO
TONASKET	WASHINGTON, STATE OF	PND02732	159.4200	PO
TONASKET	WASHINGTON, STATE OF	PND02732	159.4350	PO
VANCOUVER	CLARK, COUNTY OF	PND00351	72.1400	PF
VANCOUVER	CLARK, COUNTY OF	PND00351	72.2200	PF
VANCOUVER	CLARK, COUNTY OF	PND00351	153.9500	PF
VANCOUVER	CLARK, COUNTY OF	PND00351	154.0700	PF
VANCOUVER	CLARK, COUNTY OF	PND00351	154.3100	PF
VANCOUVER	CLARK, COUNTY OF	PND00351	154.3700	PF
VANCOUVER	CLARK, COUNTY OF	PND00351	154.4450	PF
WALLA WALL	WALLA WALLA, COUNTY OF	PND00740	155.0550	PL
WALLA WALL	WALLA WALLA, COUNTY OF	PND00740	155.7450	PL
YACOLT	CLARK, COUNTY OF	PND00351	75.9400	PF
YACOLT	CLARK, COUNTY OF	PND00351	154.0700	PF
YACOLT	CLARK, COUNTY OF	PND00351	154.3100	PF
YELM	THURSTON, COUNTY OF	PND02831	154.0100	PF
YELM	THURSTON, COUNTY OF	PND02831	154.4300	PF

Wisconsin

	EAU CLAIRE, CITY OF	PNA00021	453.3875	PL
	EAU CLAIRE, CITY OF	PNA00021	453.8875	PL
	EAU CLAIRE, CITY OF	PNA00021	458.3875	PL
	EAU CLAIRE, CITY OF	PNA00021	458.8875	PL
	WAYNE, TOWN OF	PNA00022	154.1000	PL
	WAYNE, TOWN OF	PNA00022	154.8750	PP
APPLETON	GRAND CHUTE, TOWN OF	PNA00017	154.0850	PL
APPLETON	GRAND CHUTE, TOWN OF	PND02687	151.1300	PH
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	866.0875	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	866.1500	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	866.1750	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	866.5375	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	866.5875	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	866.6500	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	867.0375	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	867.0625	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	867.8500	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	868.0625	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	868.1625	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	868.2375	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	868.5500	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	868.6125	YF
BROWN DEER	MILWAUKEE, COUNTY OF	PNR12366	868.6375	YF
CHIPPEWA F	OSCEOLA, VILLAGE OF	PND01701	154.0400	PL
CLINTON	CLINTON, VILLAGE OF	PND02601	151.0400	PH
COTTAGE GR	COTTAGE GROVE, VILLAGE OF	PND02625	153.8900	PF
COTTAGE GR	COTTAGE GROVE, VILLAGE OF	PND02625	154.0700	PF
COTTAGE GR	COTTAGE GROVE, VILLAGE OF	PND02625	154.2200	PF
COTTAGE GR	COTTAGE GROVE, VILLAGE OF	PND02625	154.2950	PF
COTTAGE GR	COTTAGE GROVE, VILLAGE OF	PND02625	154.4000	PF
CRANDON	IRON RIDGE, VILLAGE OF	PNA00018	45.3200	PL
CRANDON	IRON RIDGE, VILLAGE OF	PNA00018	155.8950	PL
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	866.0875	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	866.1500	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	866.1750	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	866.5375	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	866.5875	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	866.6500	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	867.0375	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	867.0625	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	867.8500	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	868.0625	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	868.1625	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	868.2375	YF
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FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	868.6125	YF
FRANKLIN	MILWAUKEE, COUNTY OF	PNR12366	868.6375	YF
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GRAND CHUT	GRAND CHUTE, TOWN OF	PNA00017	155.7150	PL
GRAND CHUT	GRAND CHUTE, TOWN OF	PNA00017	156.0150	PL
GRAND CHUT	GRAND CHUTE, TOWN OF	PND02687	151.1300	PH
GRAND CHUT	GRAND CHUTE, TOWN OF	PND02687	159.0000	PH
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IRON RIDGE	IRON RIDGE, VILLAGE OF	PNA00018	155.8950	PL
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MADISON	MADISON, CITY OF	PND02762	856.7375	YP
MADISON	MADISON, CITY OF	PND02762	856.9625	YP
MADISON	MADISON, CITY OF	PND02762	857.4625	YP
MADISON	MADISON, CITY OF	PND02762	857.7375	YP
MADISON	MADISON, CITY OF	PND02762	857.9625	YP
MADISON	MADISON, CITY OF	PND02762	858.4625	YP
MADISON	MADISON, CITY OF	PND02762	858.7375	YP
MADISON	MADISON, CITY OF	PND02762	858.9625	YP
MADISON	MADISON, CITY OF	PND02762	859.4625	YP
MADISON	MADISON, CITY OF	PND02762	859.7375	YP
MADISON	MADISON, CITY OF	PND02762	859.9625	YP
MADISON	MADISON, CITY OF	PND02762	860.4625	YP
MADISON	MADISON, CITY OF	PND02762	860.7375	YP
MADISON	MADISON, CITY OF	PND02762	860.9625	YP
MADISON	MADISON, CITY OF	PND02762	866.0125	YP
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MILWAUKEE	MILWAUKEE, COUNTY OF	PNR12366	866.5375	YF
MILWAUKEE	MILWAUKEE, COUNTY OF	PNR12366	866.5875	YF
MILWAUKEE	MILWAUKEE, COUNTY OF	PNR12366	866.6500	YF
MILWAUKEE	MILWAUKEE, COUNTY OF	PNR12366	867.0375	YF
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MILWAUKEE	MILWAUKEE, COUNTY OF	PNR12366	867.8500	YF
MILWAUKEE	MILWAUKEE, COUNTY OF	PNR12366	868.0625	YF
MILWAUKEE	MILWAUKEE, COUNTY OF	PNR12366	868.1625	YF
MILWAUKEE	MILWAUKEE, COUNTY OF	PNR12366	868.2375	YF
MILWAUKEE	MILWAUKEE, COUNTY OF	PNR12366	868.5500	YF
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WAUWATOSA	MILWAUKEE, COUNTY OF	PNR12366	866.6500	YF
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WAUWATOSA	MILWAUKEE, COUNTY OF	PNR12366	868.0625	YF
WAUWATOSA	MILWAUKEE, COUNTY OF	PNR12366	868.1625	YF
WAUWATOSA	MILWAUKEE, COUNTY OF	PNR12366	868.2375	YF
WAUWATOSA	MILWAUKEE, COUNTY OF	PNR12366	868.5500	YF
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1988 Volume One (10 Issues)

Jan/Feb–P/R Realistic PRO 2004

Mar–Cell Phone Freq. Layout-Pro 2004 Mods-Police Band Allocations

Apr–P/R Radio Shack Discone-Amateur Radio Bandplan-P/R Bearcat BC 600XLT-Fire Band Allocations

May–FBI-Blue Angels-P/R Regency TS 800 Model 2

Jun–Military Airlift Command-Electronic Comm. Privacy Act-Allocations: 30.000 MHz to 30.980MHz, 150.010MHz to 150.995 MHz, 406.125 MHz to 406.975 MHz

Jul/Aug–Aircraft At Forest Fires-800 MHz Trunking-Allocations: 31.000 MHz to 31.980 MHz, 151.010 MHz to 151.985 MHz, 407.000 MHz to 407.975 MHz

Sep–P/R Bearcat Uniden BC205XLT-P/R Bearcat Uniden BC200XLT-Riding The Rails, RR Frequencies-Allocations: 152.0075 MHz to 154.995 MHz

Oct–MARS Military Affiliate Radio System-P/R GRE Super Converter-BC200/205XLT Cell Mods-McChord AFB-800MHz-Allocations: 155.010 MHz to 157.980 MHz

Nov–P/R Realistic PRO 34-Realistic PRO 34 Cell Mods-Cell Phone Monitoring-GRE Mods

Dec–P/R AR3000-P/R AR880-P/R Antenna Specialties MON 52 Antenna-Allocations: 158.010 MHz to 158.985 MHz

1989 Volume Two (12 Issues)

Jan–P/R Larsen Dual Band Antennas-P/R Cobra SR 925

Feb–G.M.R.S.-Air Refueling-Allocations: 159.000 MHz to 159.990 MHz

Mar–Pro 2004 MODS-Aerial Demonstration Teams-Monitoring The Goodyear Blimps-Allocations: 160.005 MHz to160.9950 MHz

Apr–A Look At The Spectrum-Aerial Demonstration Teams-BC-200XLT Again (See Sep. 88 Reprint)

May–FAA -P/R Realistic PRO 2005-P/R AOR AR900-P/R GW 1 Pre-Amp-BC200/205XLT Cell Mods-Aerial Demonstration Teams

Jun–Aircraft Communications-Aircraft Allocations Table-BC 200XLT Update-Meteor Burst Communications-Aerial Demonstration Teams

Jul–Aeronautical En route-P/R Lapel Mike-Forestry Conservation-US Forest Service-AOR vs Uniden-Aerial Demonstration Teams-Allocations: 161.010 MHz to 162.000 MHz

Aug–TV Sound-Aircraft En route Frequencies-Aircraft Ground Control-Aerial Demonstration Teams

Sep–Aircraft Telephone-Aircraft Flight Test Frequencies-Telecommunications Act Of 1989-Aerial Demonstration Teams

Oct–Coax And Your Scanner-BC 200XLT Update-Hot Times On The Police Band-The Communications Act Of 1934-AWOS Automated Weather Observation System- Additional Aircraft Information-AMSAT-Power Radio Service

Nov–P/R AOR 950-P/R GRE Super Converter II-Monitoring Repeater Inputs-Allocation Table-RF Connectors-Portable Antennas

Dec–P/R Search and Store Module Model SS 45 For 2004, 2005-BC 200XLT Final Chapter-Cellular Information-DXing Low Band-Portable Antennas-1989 Index

1990 Volume Three (12 Issues)

Jan–P/R PS 90 Search and Store Module For PRO 2004, 2005-Highway Maintenance (National Band Plan and Freq. Code)-SF Quake of 89-Scanner Boredom

Feb–Refueling Frequencies-P/R Super Amplifier-Turbo Scan 800 TS 2 Power Fix

Mar–P/R RAC Frequency Log Program-Allocations 162.000 MHz to 173.39625 MHz

Apr–P/R Leisure Electronics DSS 8 Digital Scrambler Silencer-Mobile Data Terminals-P/R Regency INF 7 Scanner-Telephone Maintenance Radio Service-Nicad Battery Test Jig

May–P/R Regency Informant Series-Do It Yourself Glass Mount Antenna-FBI Profile Pt 1-Airshows

Jun–P/R Radio Shack PRO 2022-FBI Profile Pt 2-Forest Products Radio Service-P/R Scan Manager Software

Jul–Aircraft Communication-Drive Up Windows-P/R PRO 2006-P/R Max 800 Antenna-Allocations 450.010 MHz to 450.990 MHz

Aug–Pilot To Metro And WX Radar Facilities-Airshow-FBI Profile Pt 3-Allocation Table

Sep–Cher Concert-P/R Discone Antennas-P/R Realistic PRO 36-Allocations 453.000 MHz to 453.975 MHz

Oct–P/R MON 58 Antenna-A Look Inside Your Antenna-800 MHz Aircraft Mobile Phone-P/R AR 2515

Nov–Alcohol Tobacco Firearms ATF-P/R AR 1000-Motor Carrier Radio Service

Dec–After market Products For Portable Scanners-Allocations 454.000 MHz to 454.975 MHz

1991 Volume Four (12 Issues)

Jan–Optoelectronics Frequency Counters-Antennas And Coax-Introduction to 800 MHz

Feb–Frequency Counters-Simple Mobile Charger/Power Cord-P/R AR 3000-800 MHz Private Land Mobile Service-Intelligence Codes/Phrases/Etc-Scanner Repeater Mod

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Mar–Future Of Scanning-P/R Radio Shack All Band Mobile Antenna-800 MHz Private Land Mobile Services-Pro 2004 Display Problem-Monitoring The Blue Angels

Apr–PRO 2004 Display Backlight Fix-FCC Notice Of Inquiry-800 MHz Private Land Mobile Services-Trunked Systems-Public Safety Bands

May–PRO 2022 800 MHz MOD-P/R GRE Superconverter 9001-Amateur Radio And Scanning-Automated Maritime Telecommunications Systems-The Manufacturers Radio Service

Jun–P/R Icom IC 24AT-929 MHz Paging-P/R GRE 3001 Super Amplifier-Military Radio Systems-P/R Trident Highway Information Scanner

Jul–Icom IC 24AT Pt 2-P/R Alinco DJ 560T-Marine Radio Monitoring-200 MHz Band-P/R Startek Frequency Counters

Aug–800 Mhz-VHF, UHF Ducting Effect-P/R AR 2500 with software-P/R Lakeview 16 Discone

Sep–FCC Authorization Act of 1991-1991 Index-Club Directory

Oct–P/R AOR AR 2800-Everything You Ever Wanted To Know About GMRS

Nov–Canadian Scanner Frequencies-Kansas 800 MHz Plan-Club Directory

Dec–Frequency Counters-P/R Radio Shack HTX 202-Aircraft Carrier Landings-1991 Index

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Jan–Traveling With Your Radio-P/R PRO 37-Allocation Table

Feb–New Jersey Scanner Law Reform-P/R Shinwa SR001 Scanning Receiver-Cell Phone Frequency Plan-P/R ACE GW 2 Wide Band Amplifier

Mar–P/R Icom R–1-Frequency. Counters-Cellular Channel Plans

Apr–P/R Ventenna Model VT 15S-Auto Racing-P/R Icom R 100-Public Safety Log Sheet-P/R Alinco DJ 580L

May–Speed Traps-Federal Aviation Administration (FAA)-Aircraft Allocation Table-Military Airlift Command(MAC)-US Forest Service-Legalities Of Monitoring

Jun/Jul–Amateur Radio In Space-NASA Frequencies-Nickel Hydride Rechargeables-Aeronautical En route Frequencies-Guide To AOR AR1000-GMRS-Frequency Search Table

Aug/Sep-P/R Radio Shack PRO 43-VHF Aircraft Allocations

Oct/Nov–P/R Startek Frequency Counter BG 15-Catalog Sources-Flight Monitoring-Clubs and Publications Directory

1993 Volume Six (2 Issues)

Dec 92/Jan93-Mon. The Shortwave Band–ATIS Oper.

Feb/Mar–Government Trunking Frequencies-Military Aircraft On Your Wideband Scanner-Aircraft Cockpit During Climb Out-Airshow Frequencies

1994 Volume Seven (4 Issues)

Sep–The Rat Patrol Police Direction Finding Catches Bank Robbers-Sleuthing Private Detective Agencies With National Frequency Listing-Antenna Gain And Directionality-Trunking And Encryption Systems How To Listen In-Parachute Jumping and Sky Diving-Jump Zones And Frequencies-Direct Satellite Scanning-Scanner DX-Introduction To Scanning

Oct–Ground Plane Antennas-P/R Optoelectronics R10 Interceptor-Automated Surface Observing System With National List-Trunking and Search Steps-Air to Air Refueling With National Map and Frequencies-Book Review: Beyond Police Call-Astronaut Hams

Nov–How The Signal Gets To Your Antenna-P/R Radio Shack PRO 2035-Motorola Coverage PLUS-Med Net Channels-P/R BC 200XLT-House Bill HR4922 Interception Of Digital and Other Communications-Air Traffic Control Centers With Maps-137 MHz Satellite Band-Oil Spill Clean Up Frequencies

Dec–Civil Air Patrol-Halfwave Dipole-Monitoring Military Satellites-SAR Search And Rescue-Personal Communications Service-State Highway Maintenance With State Frequencies

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Jan–AOR AR 8000 Pre-Review-Antennas for today's scanners-1995 Police Call-The National Scanner Source Book-Weather Satellites-Phoenix Air-Public Safety; Fire Departments-Railroad frequencies for the entire USA-Finding hidden frequencies-Aviation; The Hawaiian Islands frequencies-P/R JIM M 75 Pre-Amp-FCC News;1.6MHz Mobile Satellite Service

Feb–Product Review, AOR AR8000-Space communications and you-Annual guide to Air Shows with frequencies-Cell phone & OJ-Nellis Air Force Base home of the ASAF Thunderbirds-dband Wideband and Multiband Antennas-Aviation; Alaska aviation frequencies-Tune In logging program-National car racing frequencies-P/R Opto Electronics Scout Model 25-FCC News; 911 compatibility

Mar–P/R Radio Map-Space research frequencies-Phase inversion explained-P/R Ramsey scrambler/descrambler-Antennas, the yagi beam-Offutt Air Force Base-800MHz public safety frequencies Alaska through Massachusetts-Opto model 25 scout revisited-Microwave mobile band

Apr–USSN BBS Online Computer System-Aviation, Norfolk VA-UHF Satellite terminal system-Antennas for weak signals-P/R Startek ATH-10 counter-800MHz public safety frequencies Maryland to Wyoming-Much More

May–900MHz Cordless phone-P/R Percon Spectrum Data base-Vehicle Tracking-Aviation, Florida Keys to Virgin Islands-136-174MHz Satellites-Scanner Antennas-Finding frequencies-February FCC public safety updates-FCC News

Jun–US Gov't trunking-Amateur tcvrs out of band operation-Aviation; Atlanta GA frequs-Shuttle flight profile-Direction finding for scanners-Dayton 95-Call Boxes-Mar. FCC Updates

Jul–Cubical quad antenna-US Customs Service-Monitoring 800MHz Trunked systems-To10 shuttle MIR frequs-P/R AOR AR2700-Beginners corner purchasing a scanner-Special emergency radio service-April FCC updates-P/R ICOM R7100

Aug–US Immigration & Naturalization Service-New Frequencies Allocations-Antennas for those new frequencies-FCC Call Signs-Railroad Monitoring w/ frequencies-Transportation; E central MN, NW Wisconsin-SCPC Comms-Jim 51 Preamp-EMMRS-May FCC updates

Sep–Bureau Alcohol Tobacco & Firearms Pt. 1-Antennas maximize signal to noise ratio-Transportation Ptld OR-The future of space comm-P/R Uniden BC-9000-

Police Monitoring-June FCC Updates-GTE Tele Go-Book Review Cheek 3

Oct–Editorial "Scanning Outlawed"-Bureau Alcohol Tobacco & Firearms Pt. 2-Boeing 777-Feed lines transmission lines-Scanning the Internet-Priority Function-P/R Sky Scan Desk 1300-Transportation Delaware-SARSET Search & Rescue-P/R Optoelectronics Scout 40-July FCC Updates-P/R **Pro 60-AOR 8000 expert mode**

Nov–Looking for your Federal Gov't-Lightning protection & long wire beams-Law enforcement communications security-New cordless phones-10 commandments of scanning-Transportation; Kansas City KS & Missouri areas-The IRIDIUM System-P/R AOR SDU 5000-Public safety; Nassau County NY-FCC license applications for Aug.

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Dec/95 Jan/96–US Bureau of prisons-Antenna system accesories-P/R Optoelectronics OptoScan OS 535-Monitoring the National Weather Service-Transportation Memphis TN-Space Antennas-**AOR 8000 technical stuff**-Putting a scanner in your car-Public Safety Nassau County NY-FCC license applications for Sep.-Scanning like a pro-**AOR 8000 the 8k band plan**

Feb–Gov't Printing Office Access-Discone Antennas, Preamps and more-Scan*Star for Windows-Being a Comfortable Scanner Monitor-The Other Half, renumbering the Ten Code-Transportation, Corpus Christi Area-Amateur Astronauts-Interference Filters For Your Scanner-Scanning the Hidden World of Radio Waves-Local Gov't Radio Service-FCC License Applications-Goodyear Blimps-Make a Junkbox Antenna-**AOR AR8000 Data Channel** Bypass-FCC News, Remote Sensing Satellite systems

Mar–Police Call Plus 1996-P/R M1200 Decoder Card-US Secret Service protecting the President-Beam antennas-Scanning the Internet-The Other Half, New Years Resolutions-Transportation Burlington Alabama-Phase Three Amateur Satellites-Pro 26 Technical notes-Public Safety Catskill Region New York State-FCC license applications-FCC News Commercial Mobile Radio Services annual report

Apr–ARINC Aeronautical Enroute Frequencies-EMS Emergency Medical Service-Drug Enforcement Admin (DEA)-Transportation, Oklahoma City Area-Antennas, Diversity Communication-Beginners, Antenna Basics-Technical Stuff, Message Tracker-Computers, Probe Ver. 2.0 Beta-Fireground Radio Operations-Space Shuttle & MIR-Monitor America Review-2GHz Mobile Satellite Service-Internet Usenet-Remote Scanning-Public Safety License Applications update

May–Annual Air Show Issue-Blue Angels, Thunderbirds, Snowbirds Part 1 Schedule With Frequencies-Air to Air Refueling-Centers for Disease Control (CDC)-Weak Signal Reception-Transportation, Bangor Maine Area-Scancat and Scancat Gold Review-Biomedical Telemetry-Scanner Shopping on the World Wide Web-Book Review, "Scanning Secrets: Buying, Owning and Operating a Scanner-Product Review, AEA ACARS Decoder-Diplexers-Shortwave on Satellite-**AOR 8000 and a Tape Recorder**-License Applications for April-How to Set Up Channel Banks in Your Scanner

Jun–US Gov't, Signal Intelligence Analysis-Conformal Scanning Antennas-Airshows Pt. 2-Public Safety Washington DC-Launch Orbital Mechanics-Transportation, Madison, Milwaukie WI Areas-Radio Manager Ver. 3.0 Beta-Law Enforcement on the World Wide Web-Cordless Phones Then and Now-Gass Conviction Overturned-License Applications for May

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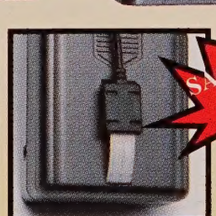
- All frequencies are automatically saved until deleted.
- Interface to a PC with the optional ***OPTOLINX*** or the ***CX12AR*** for data download.
- Custom 10 digit LCD display with automatic EL backlighting.
- 16 segment RF signal strength bargraph.
- Pager style vibrator for discreet recording. Distinctive beeper indicates frequency detection.
- Rapid charge NiCads with AC charger supplied; 2 hour recharge and 8-10 hour battery discharge.



SAC8000 $35

•Using the optional SAC8000 is a snap-Just plug and play. SAC8000 includes cable, back panel with slot, and velcro attachments.

SPECS

Frequency Range: 10MHz - 1.4GHz
Input Amplifier: 50 Ohm vswr <2:1
Sensitivity: 1mV 30MHz - 900MHz
Maximum Input: +15dBM, 50 milliwatts
Display: 10 digit LCD with backlight

Operating Time: 8 - 10 hours
Power: 2VDC 1 Amp wall plug adapter for rapid charging. 6VDC 130mA minimum operating power required. AC90 adapter supplied.

Factory Direct Order Line: 1-800-327-5912

MADE IN USA

OPTOELECTRONICS®

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